

FIG. 1A

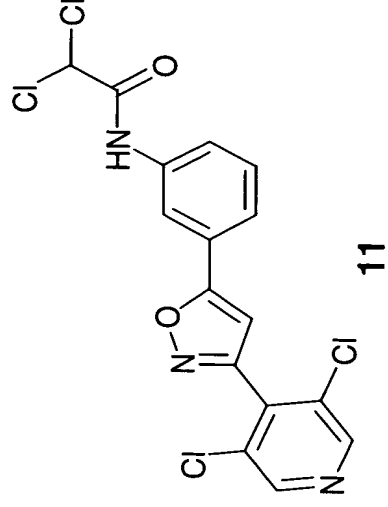
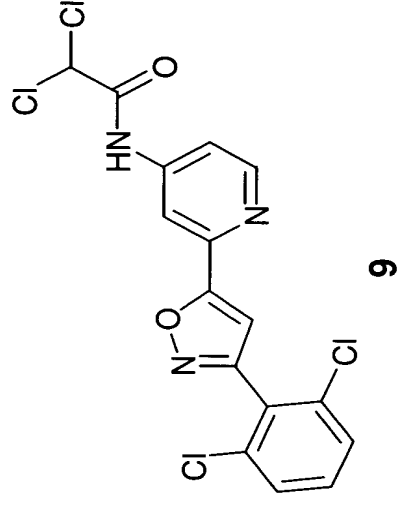
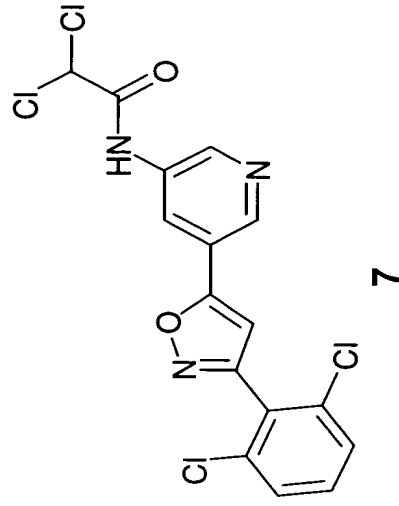
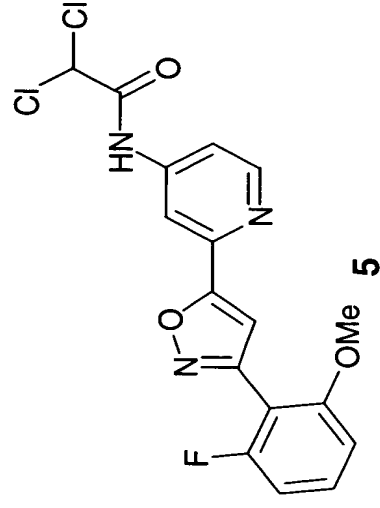
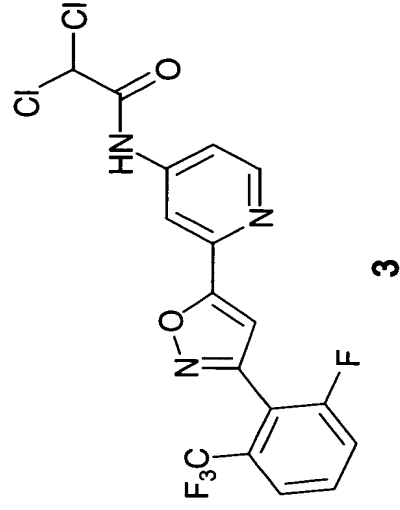
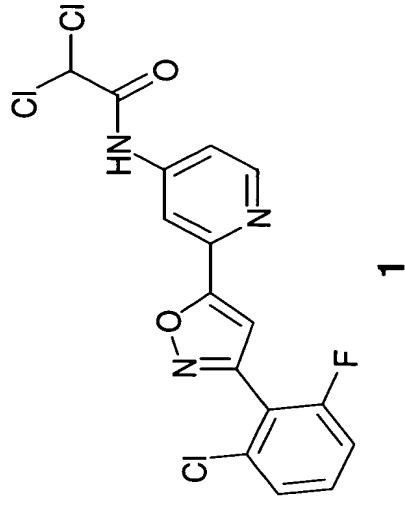


FIG. 1C

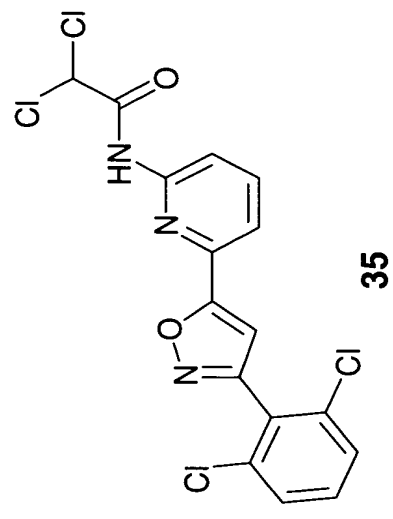
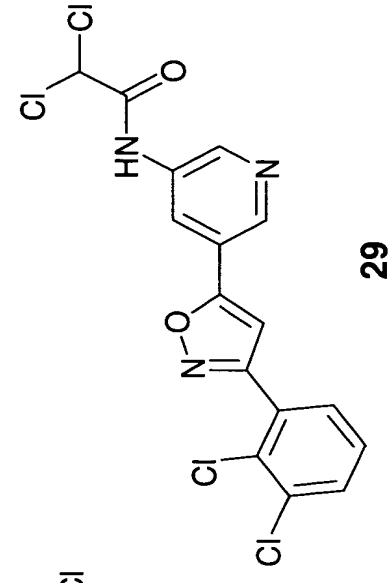
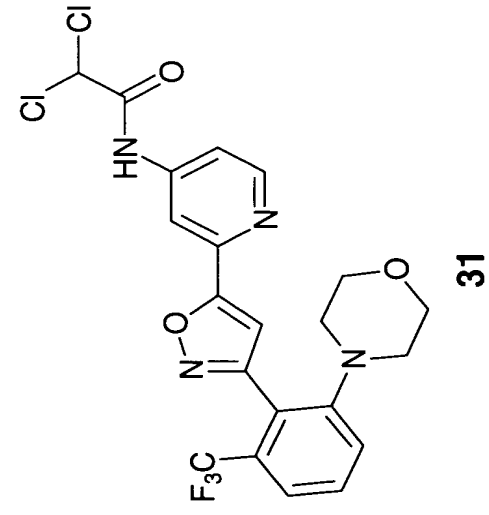
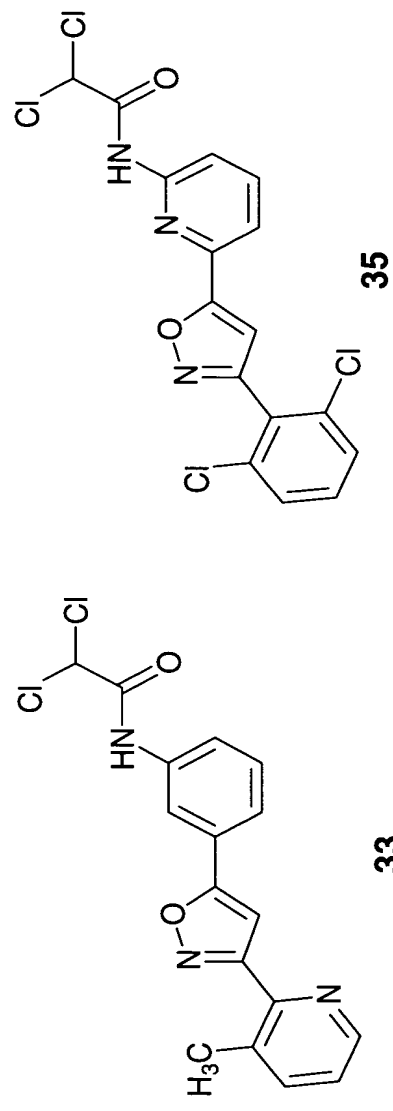
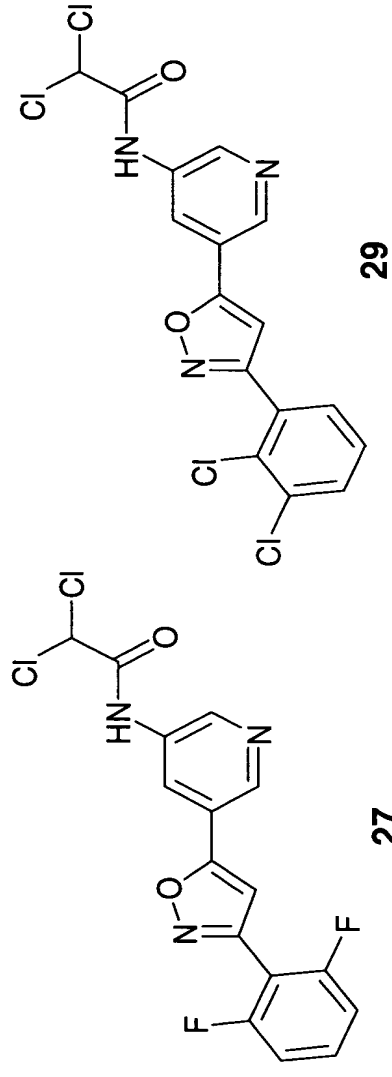


FIG. 1D

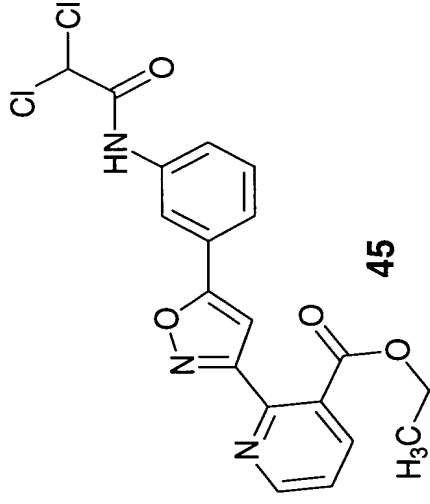
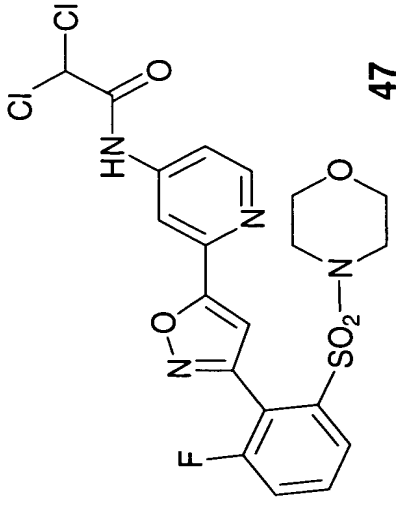
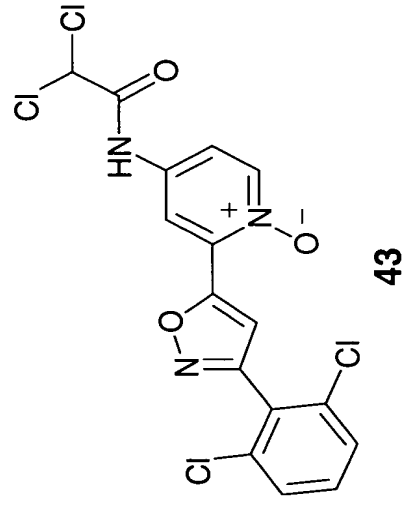
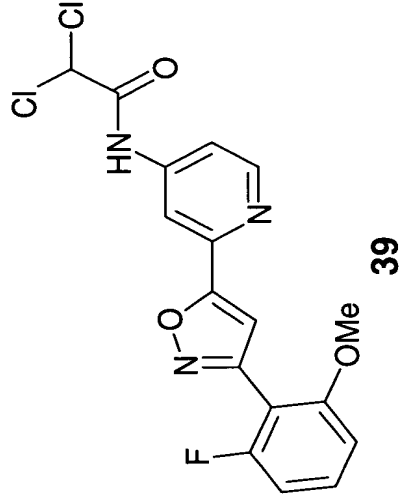
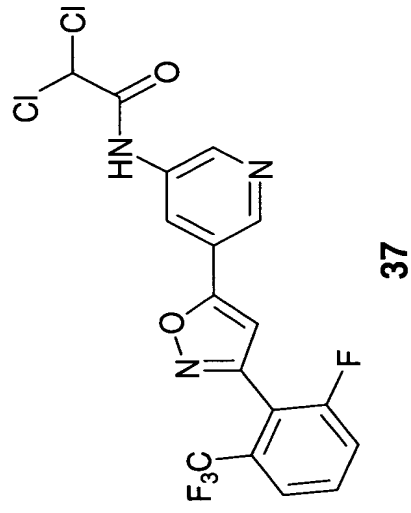


FIG. 1E

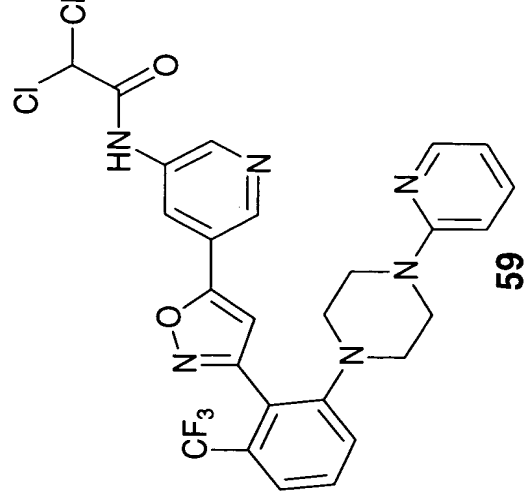
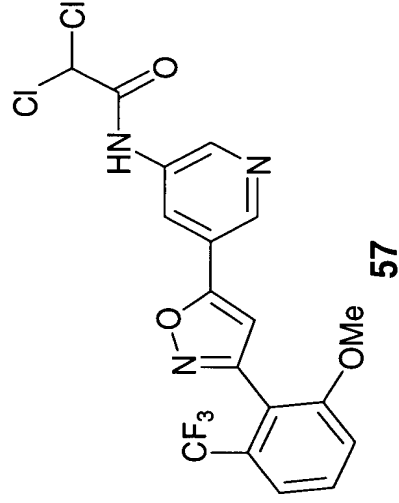
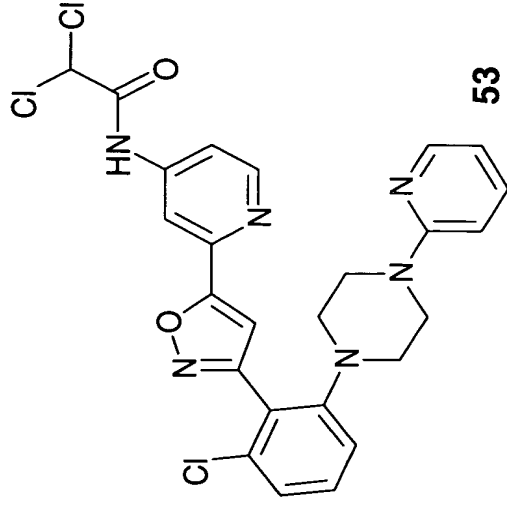
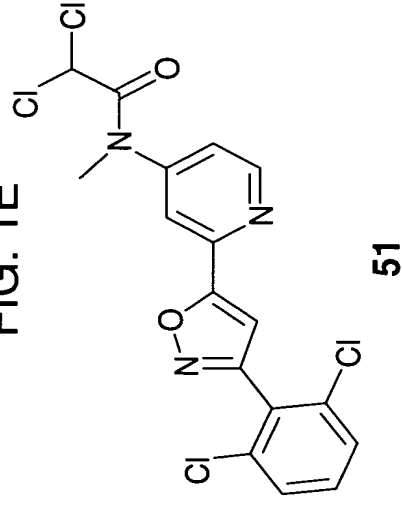
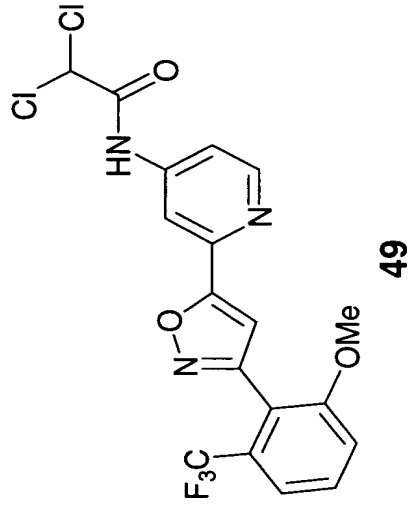


FIG. 2A

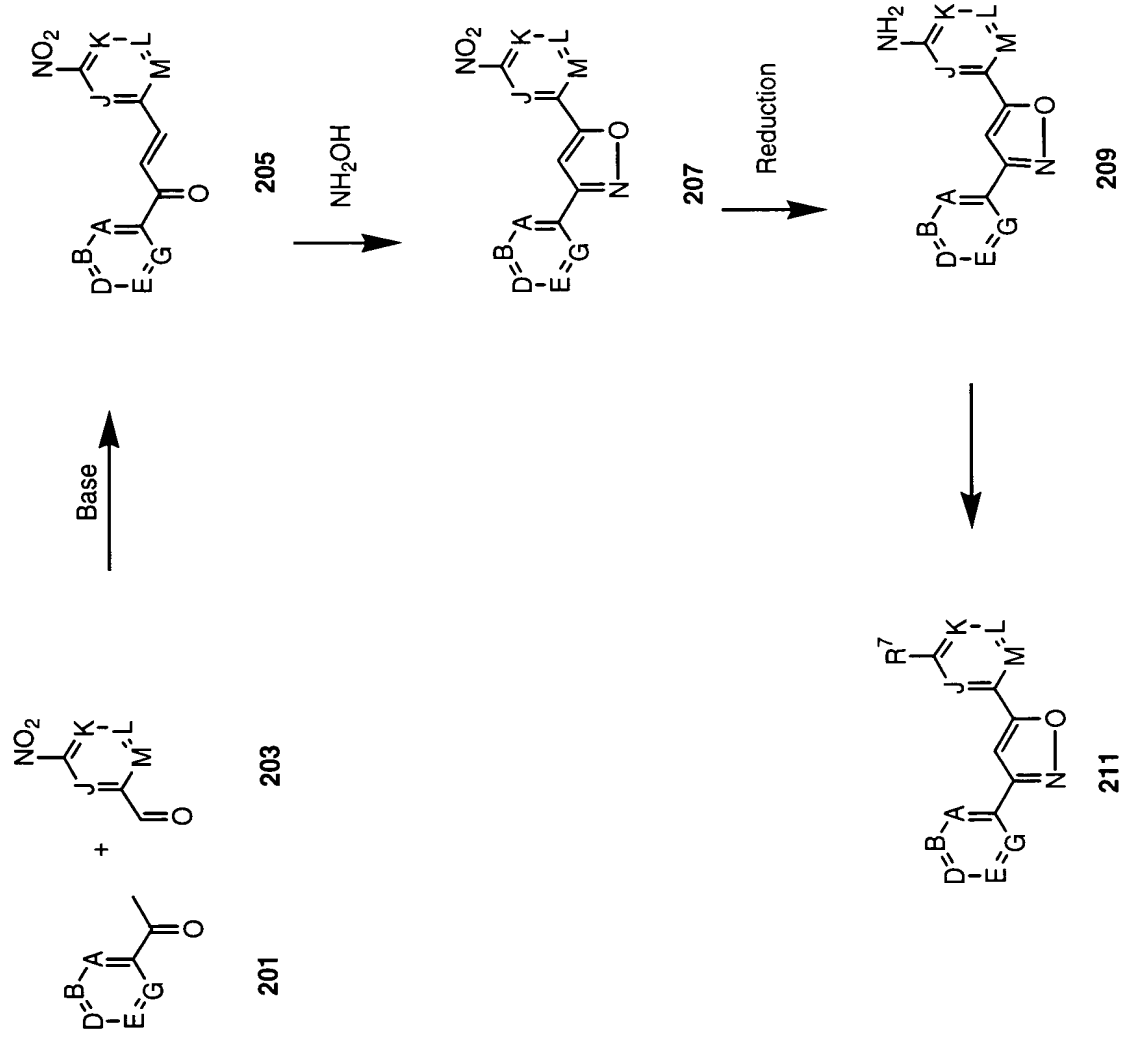


FIG. 2B

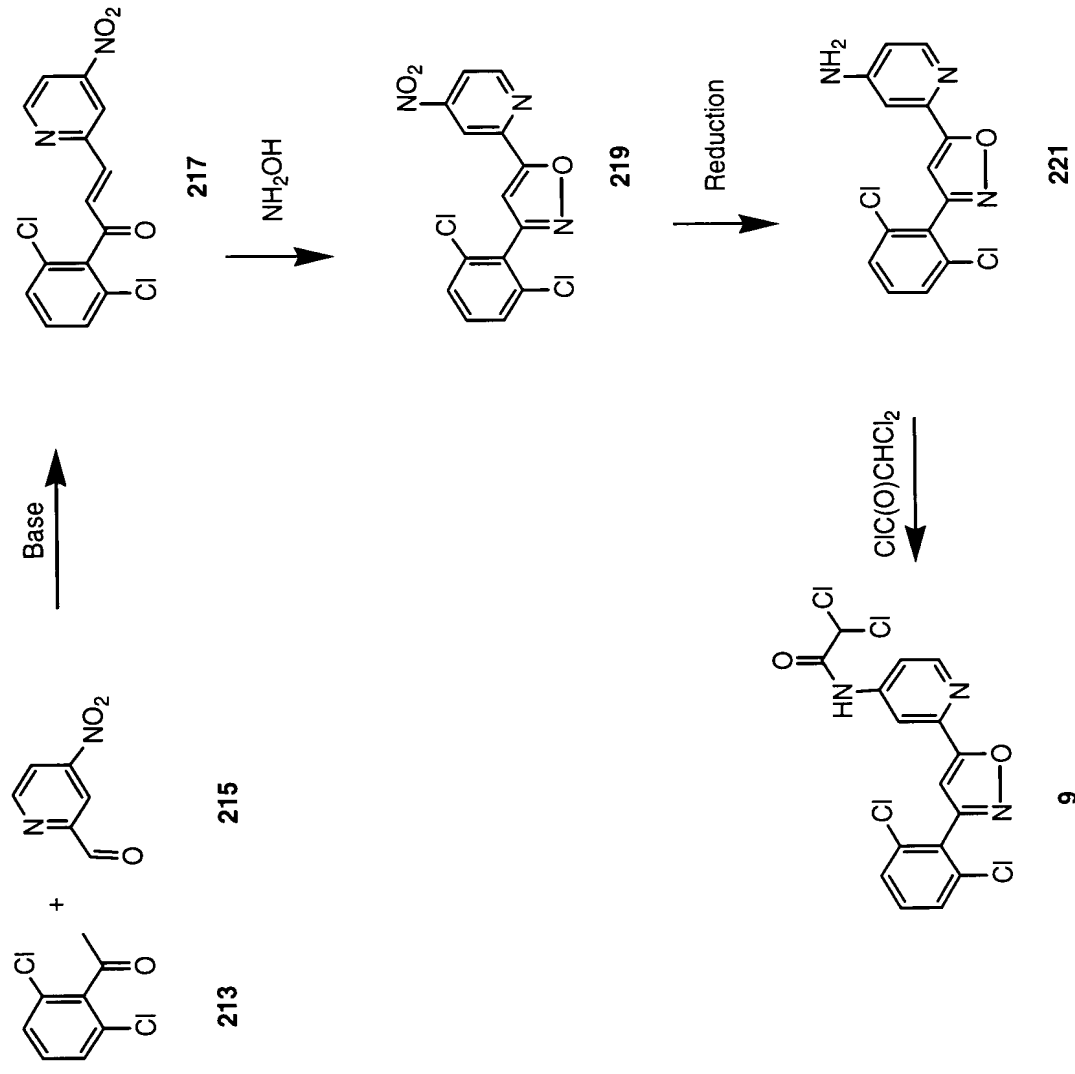


FIG. 3A

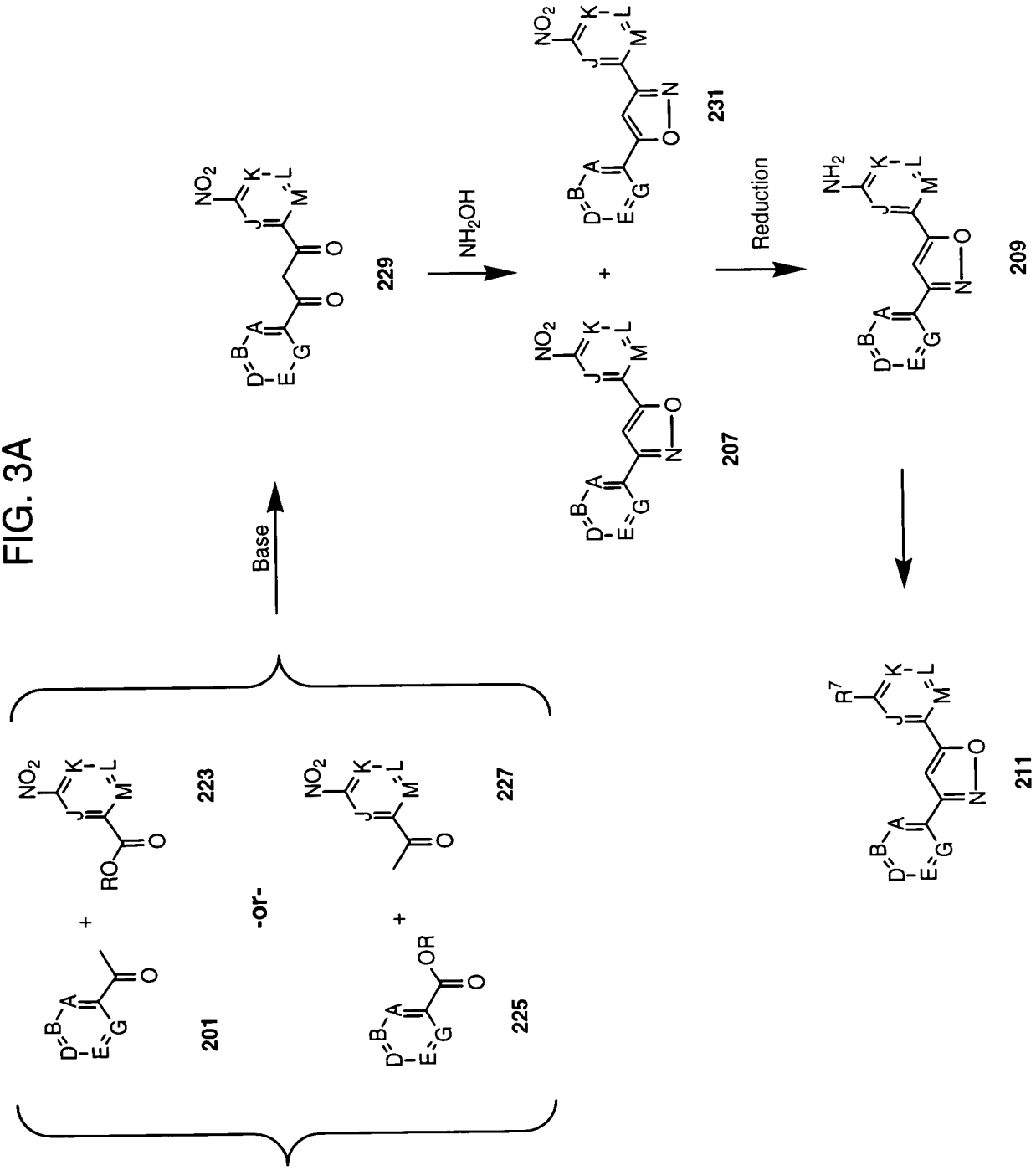


FIG. 3B

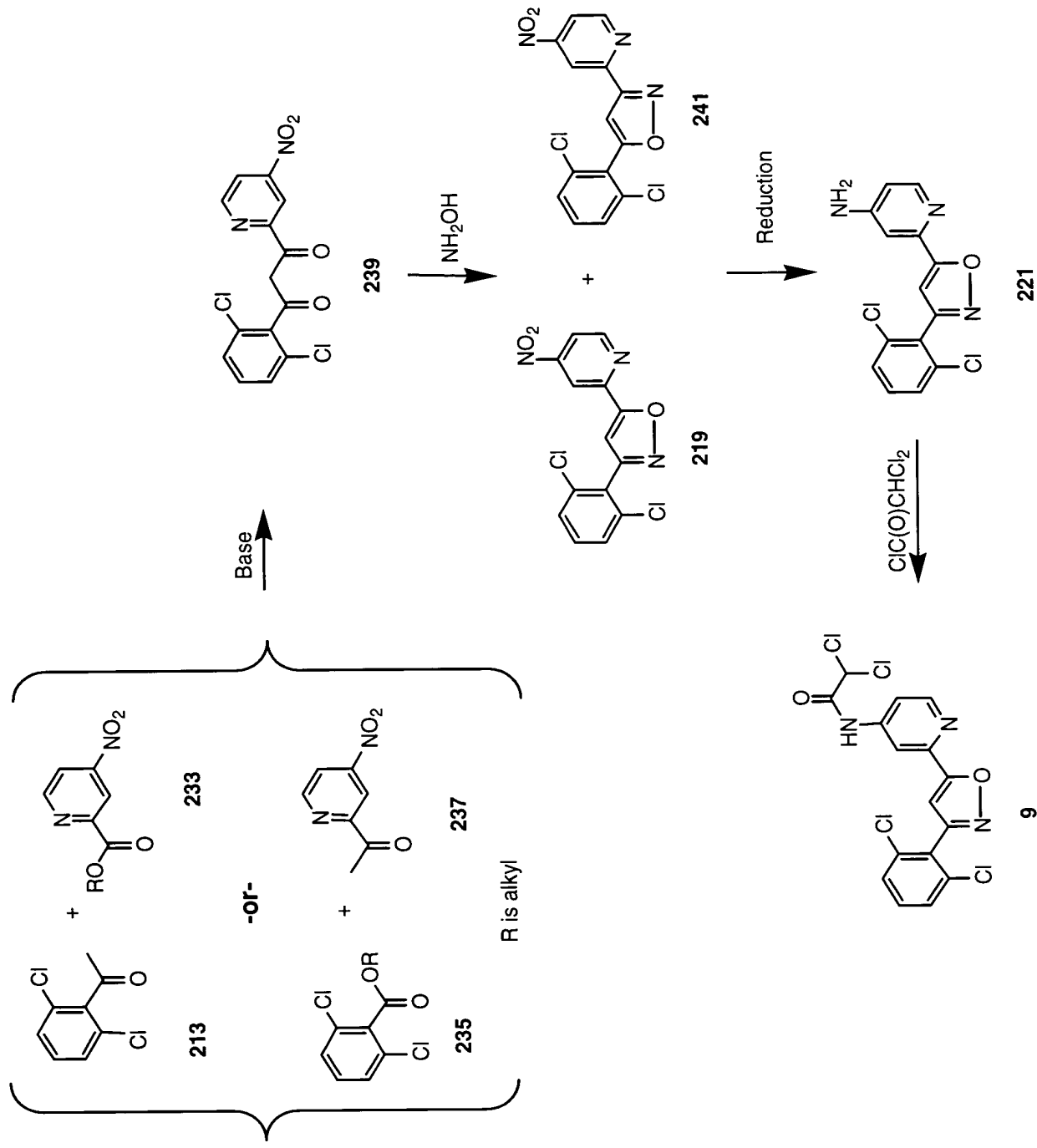


FIG. 4A

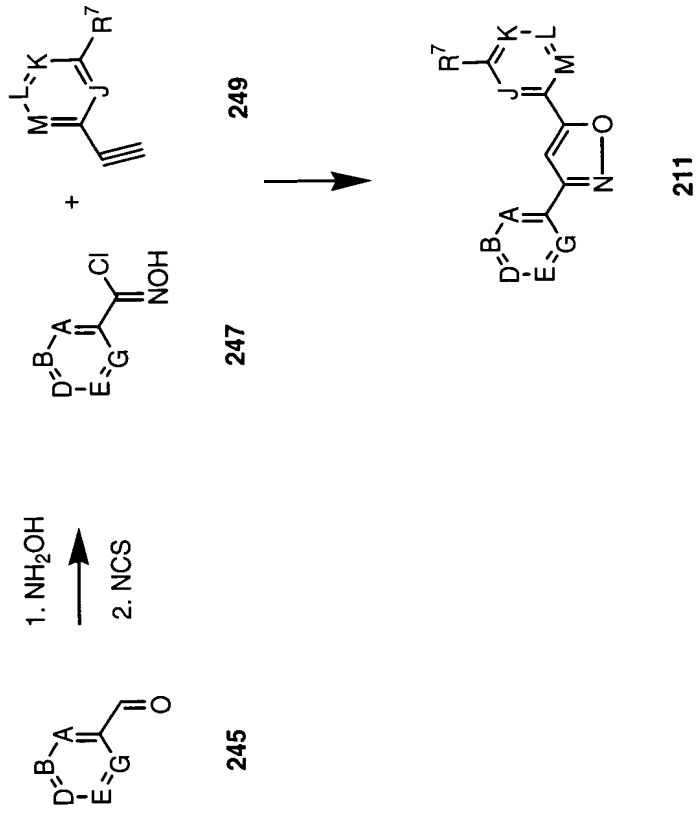


FIG. 4B

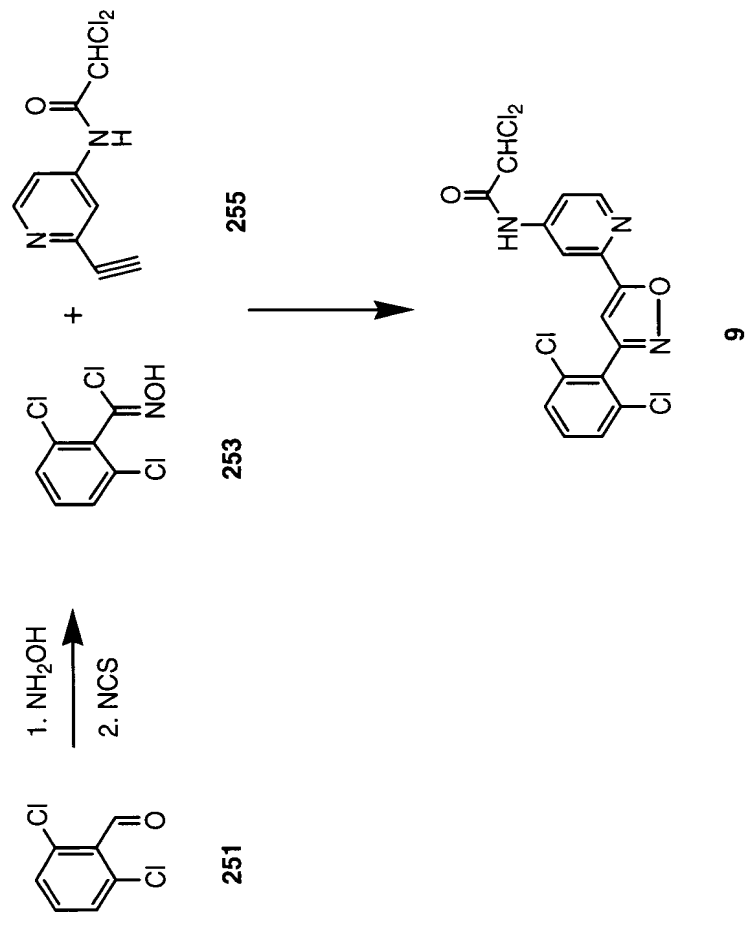


FIG. 4C

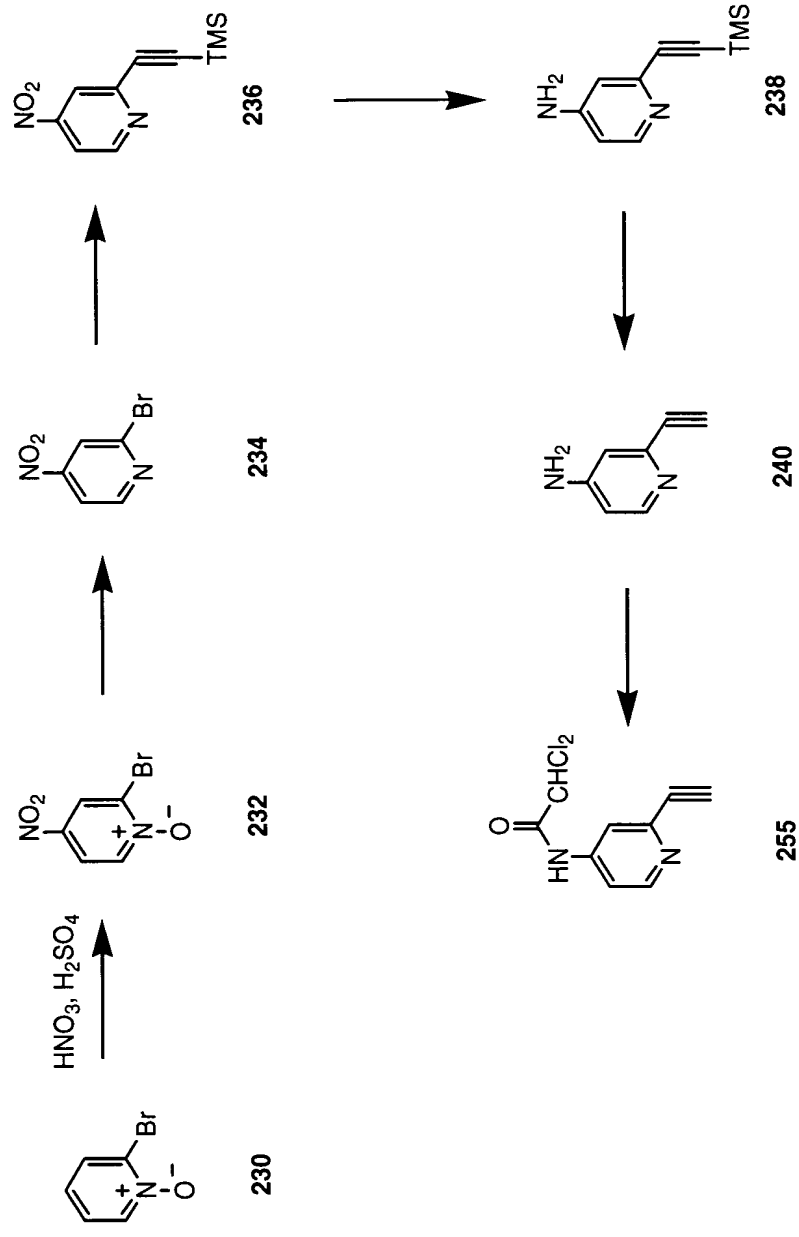


FIG. 4D

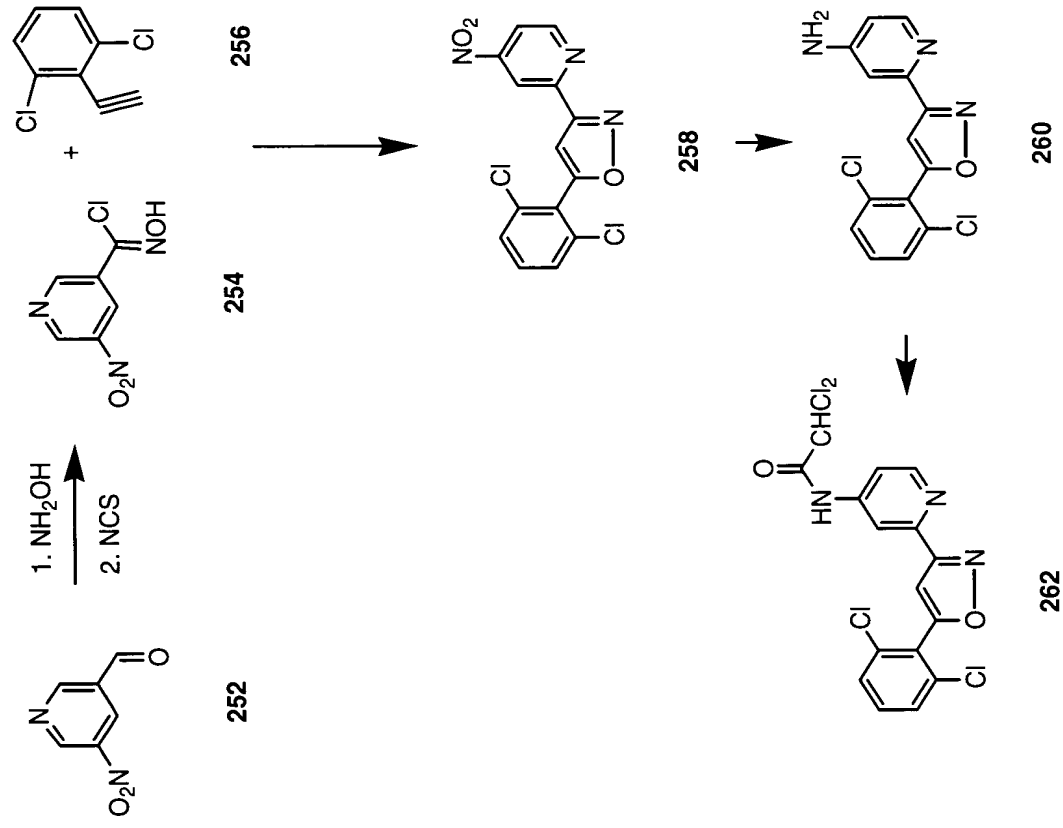


FIG. 5A

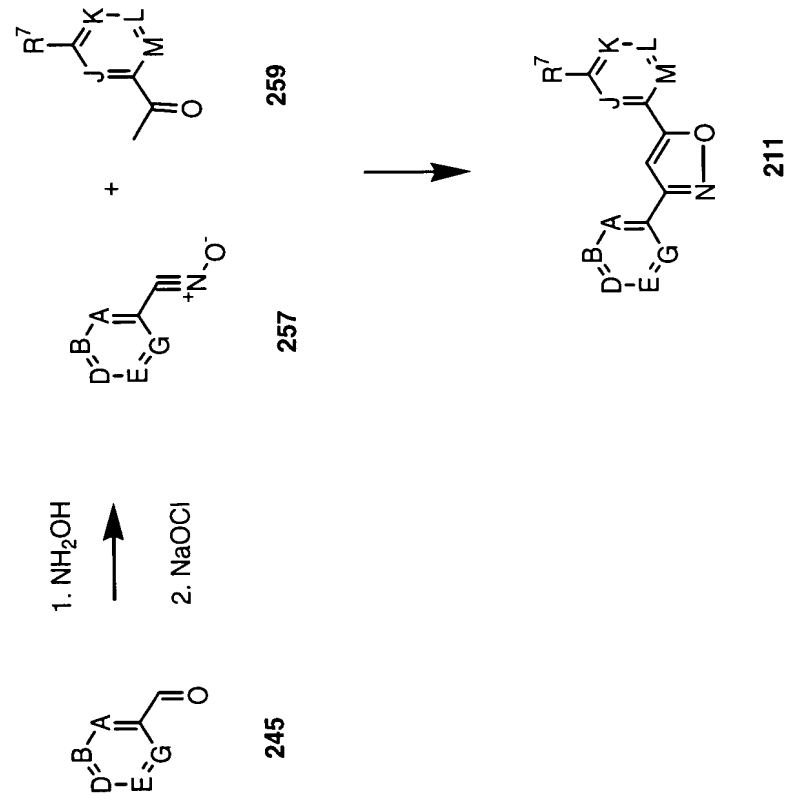


FIG. 5B

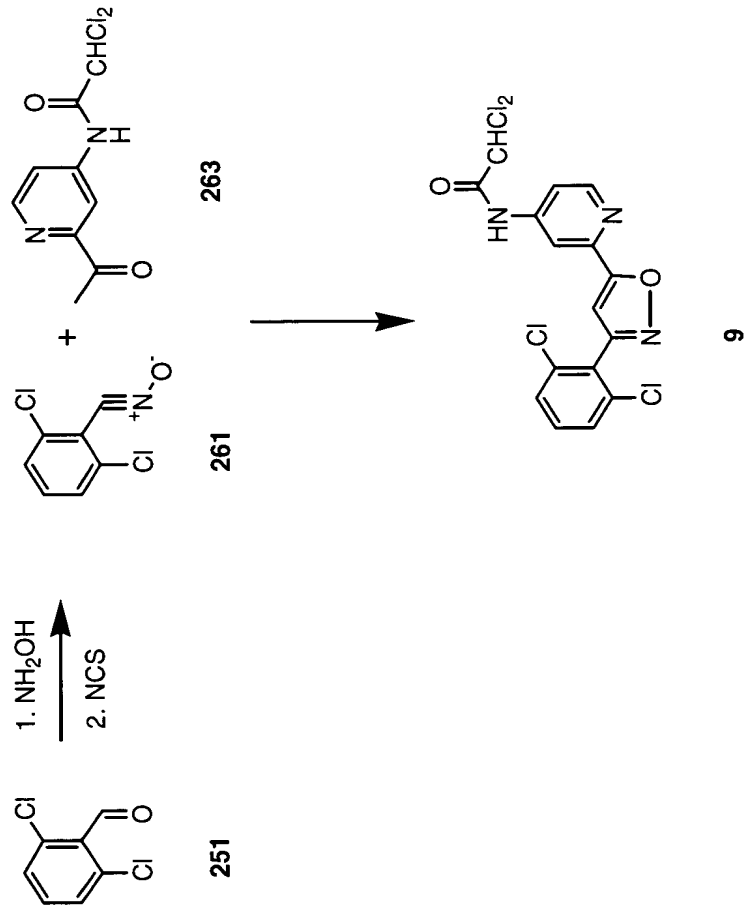


FIG. 6A

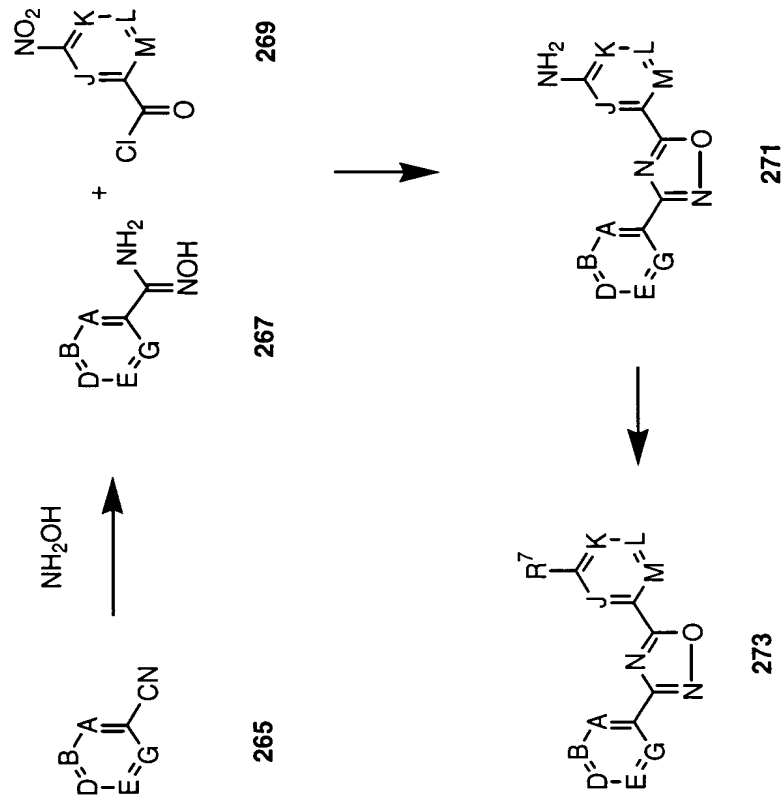


FIG. 6B

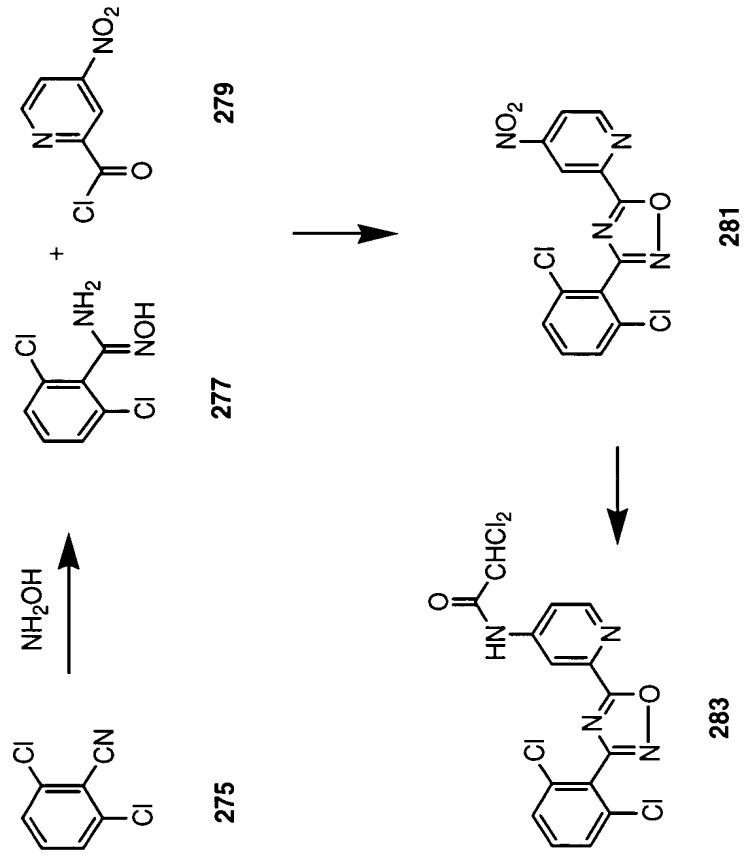


FIG. 7A

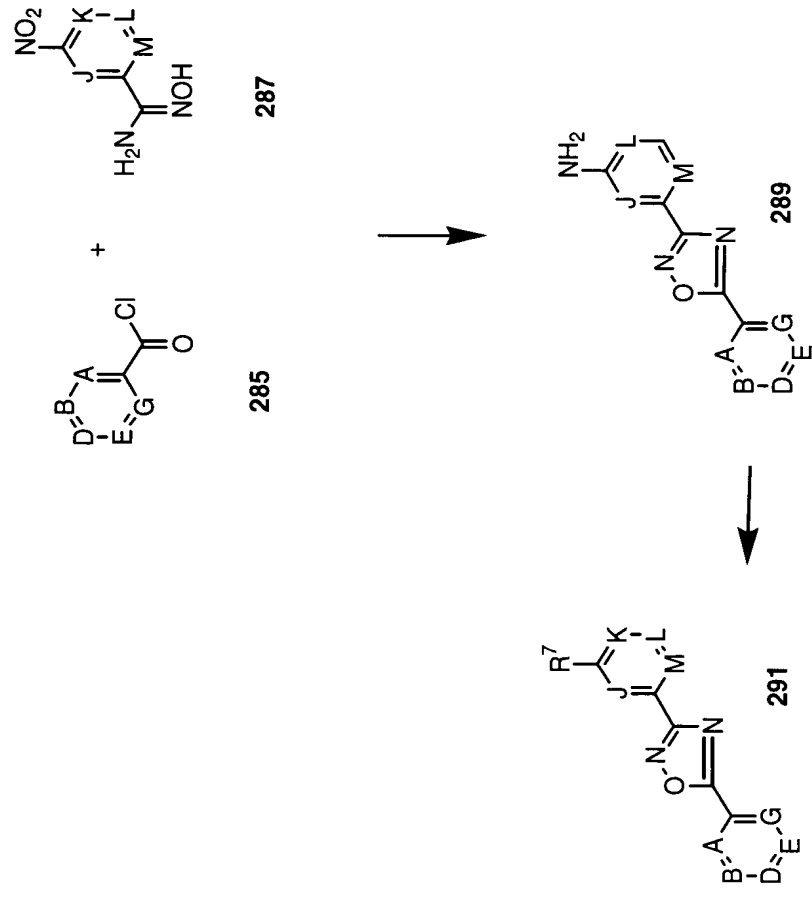


FIG. 7B

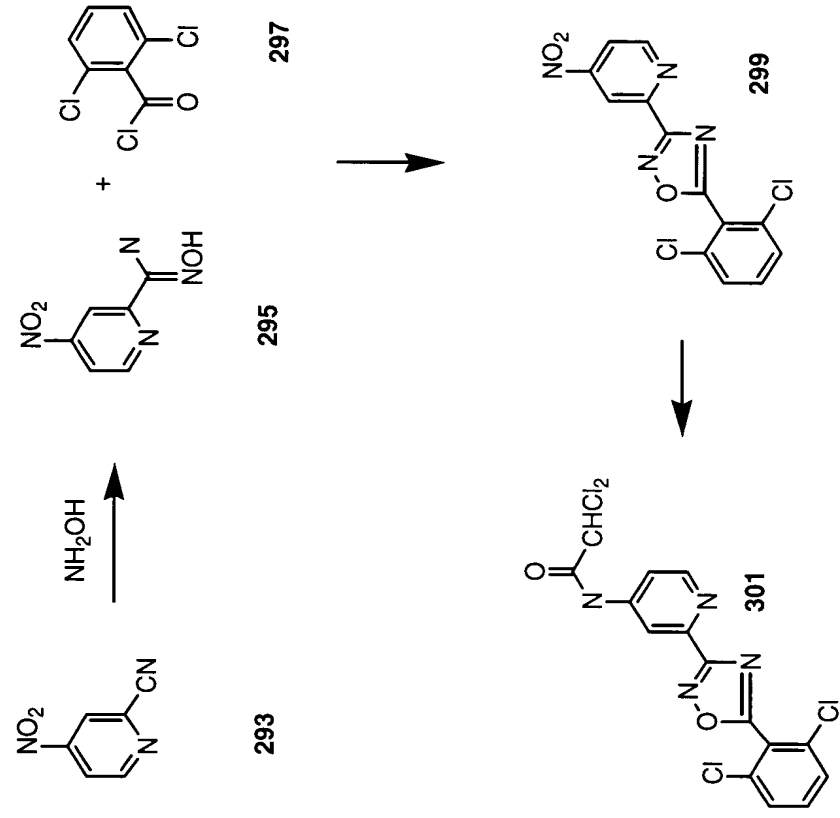


FIG. 8A

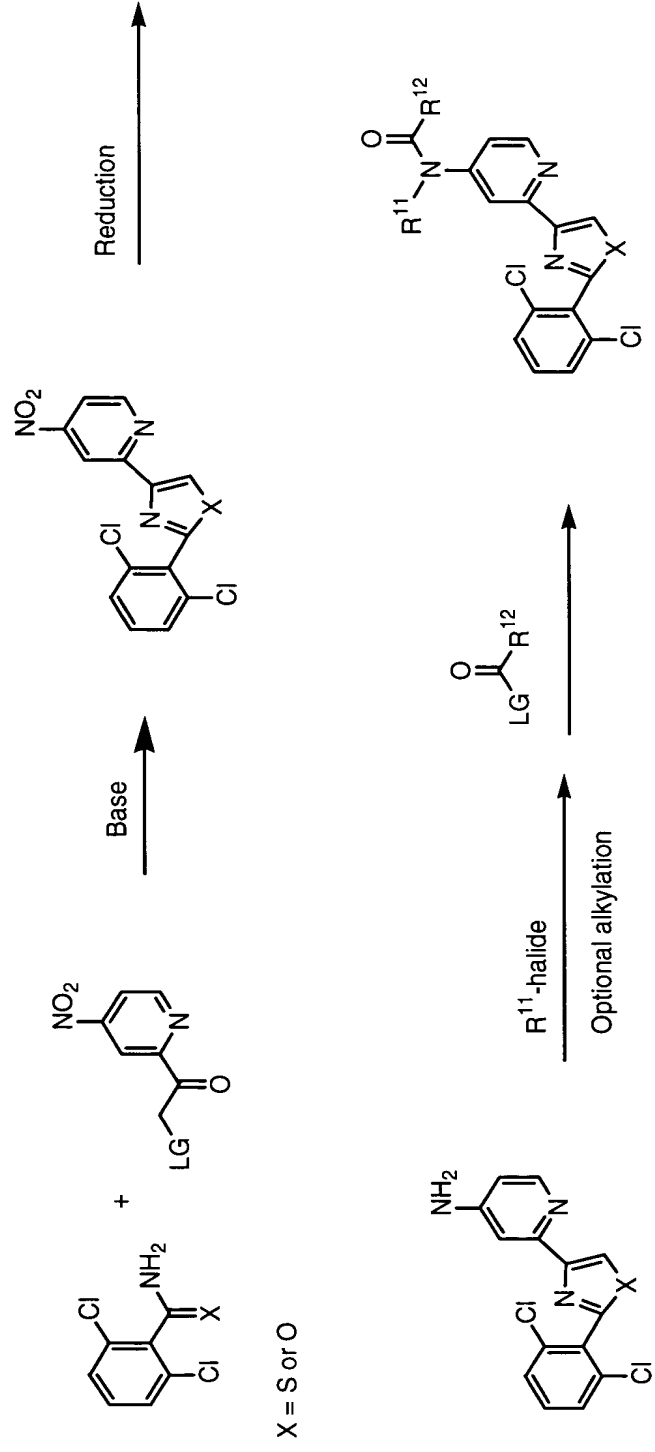


FIG. 8B

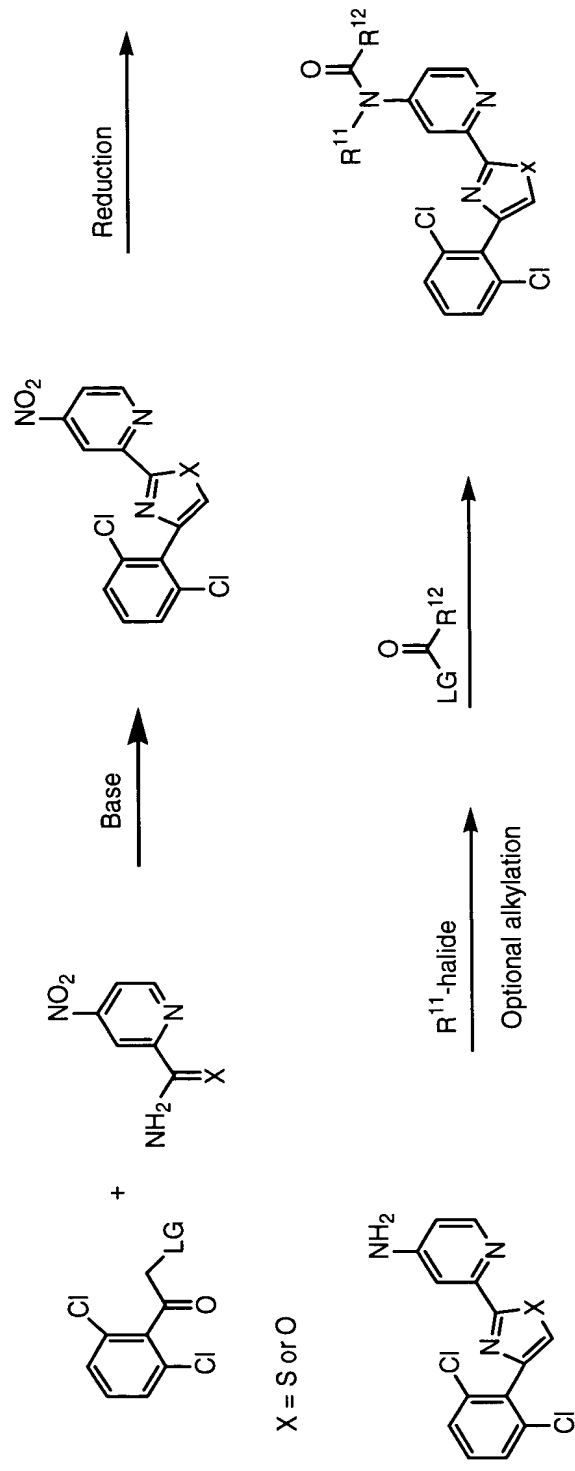


FIG. 9A

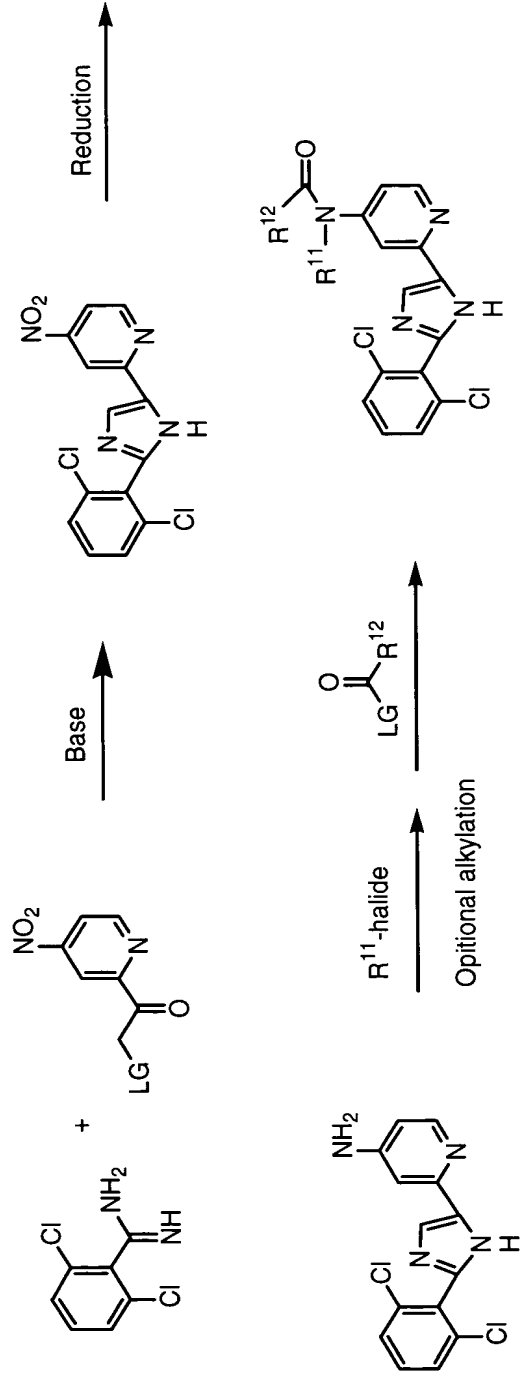


FIG. 9B

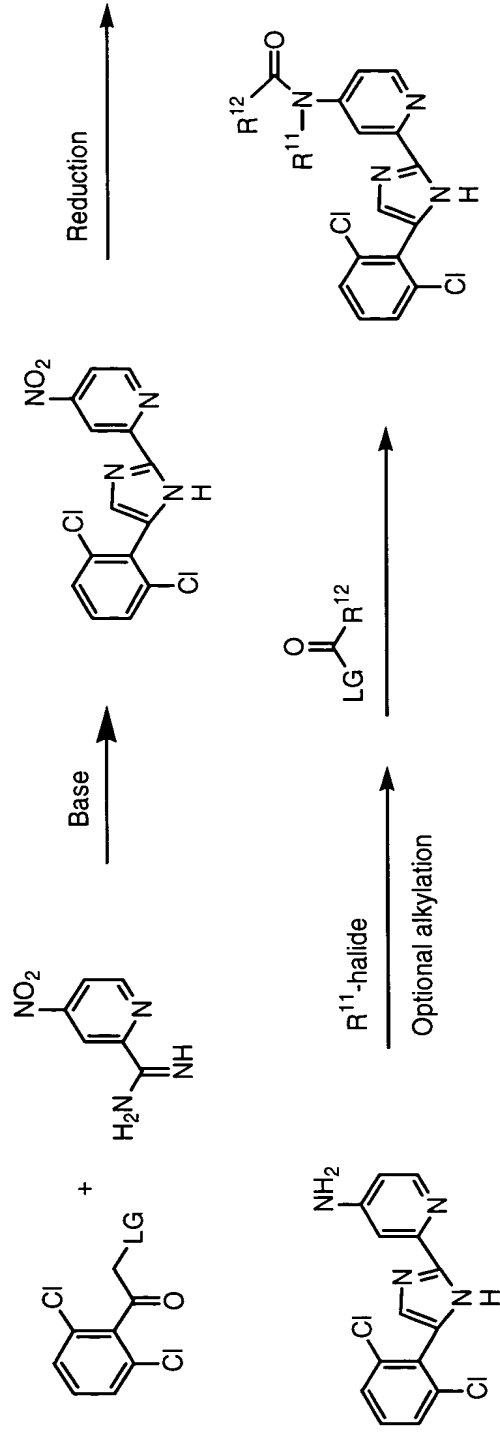


FIG. 10A

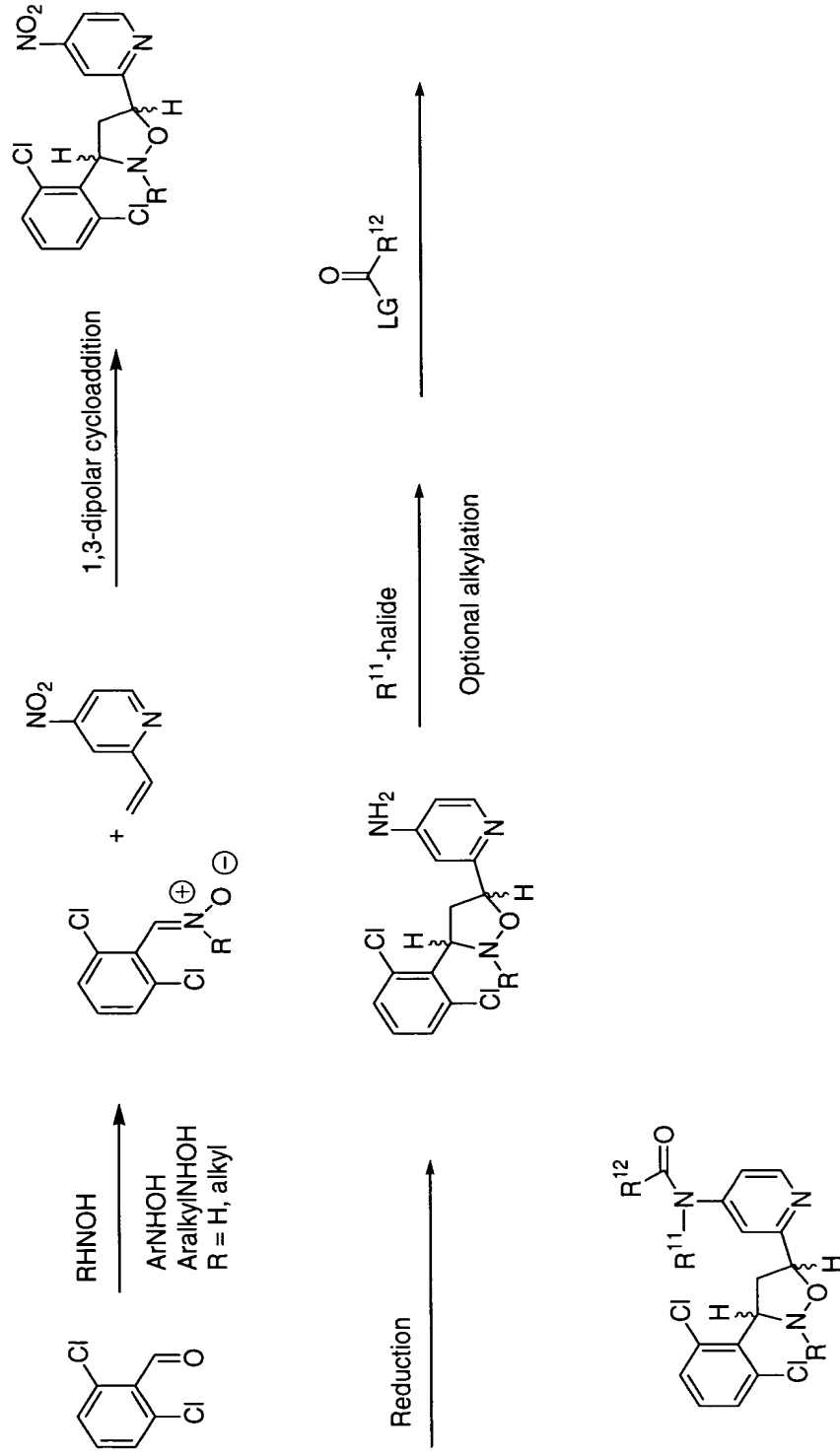


FIG. 10B

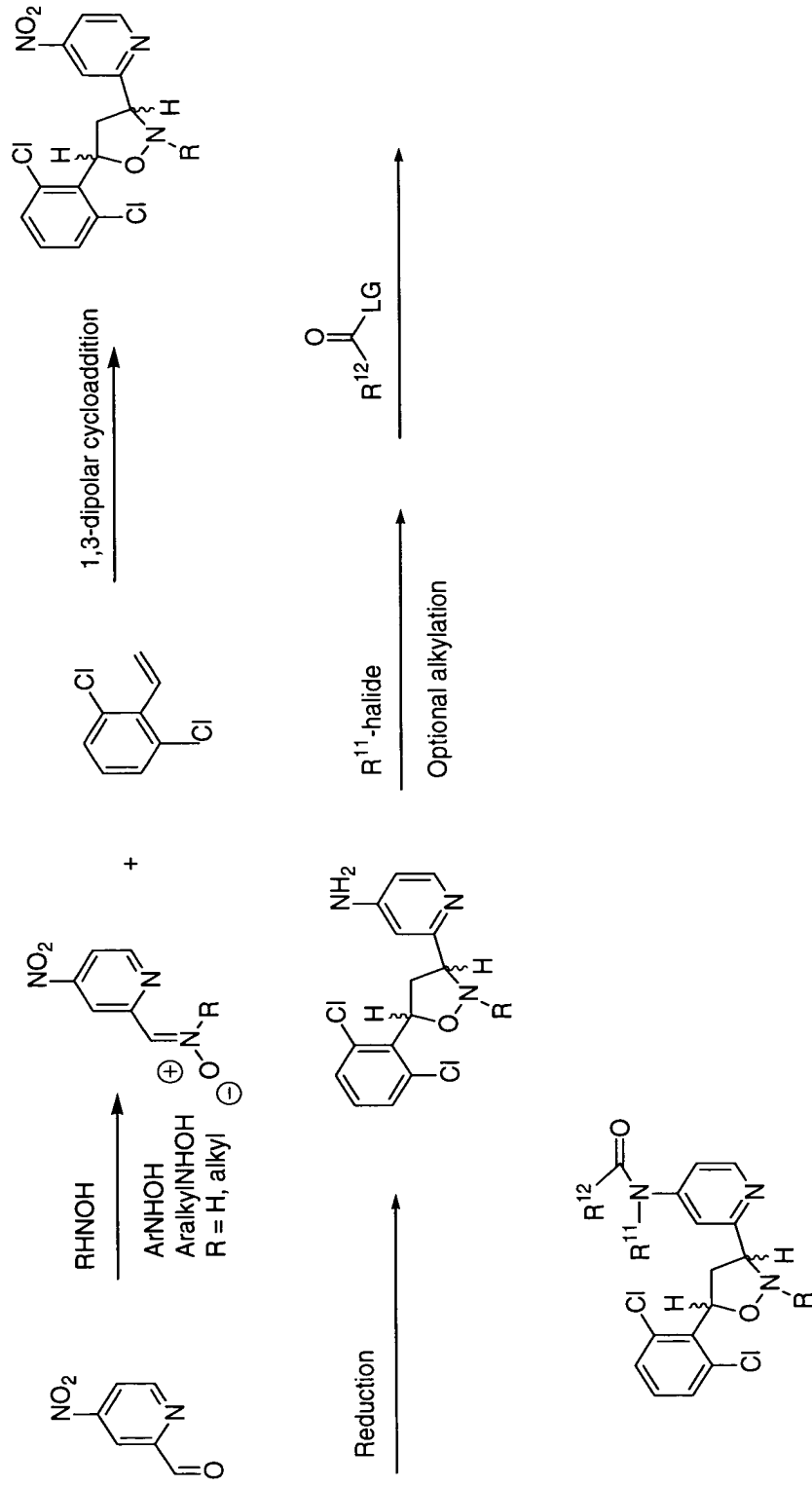


FIG. 11A

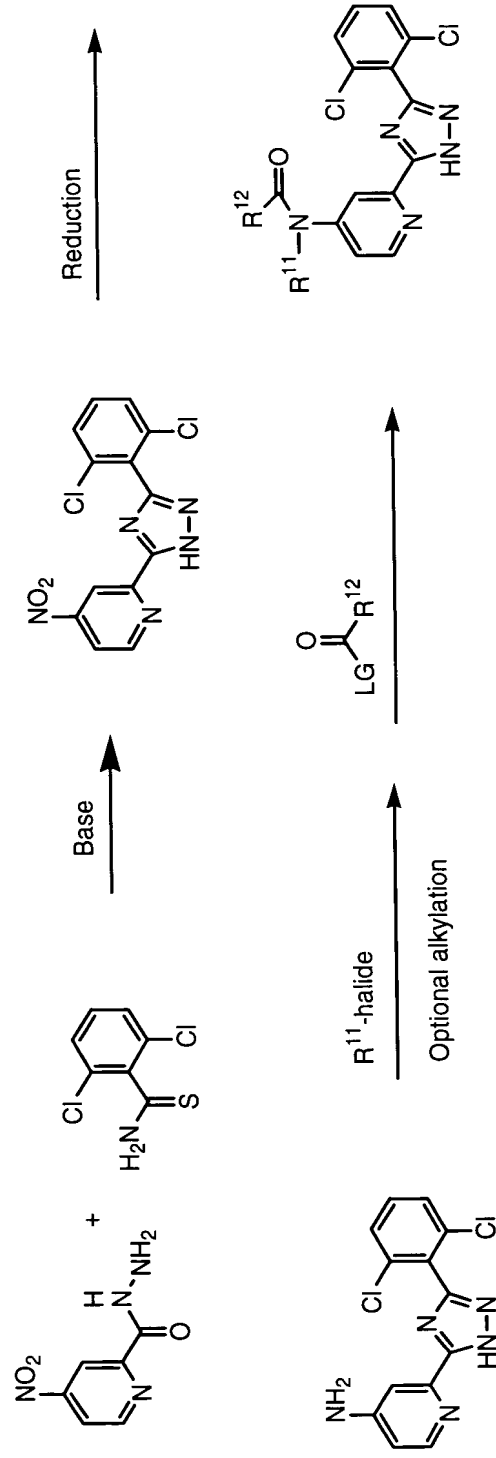


FIG. 11B

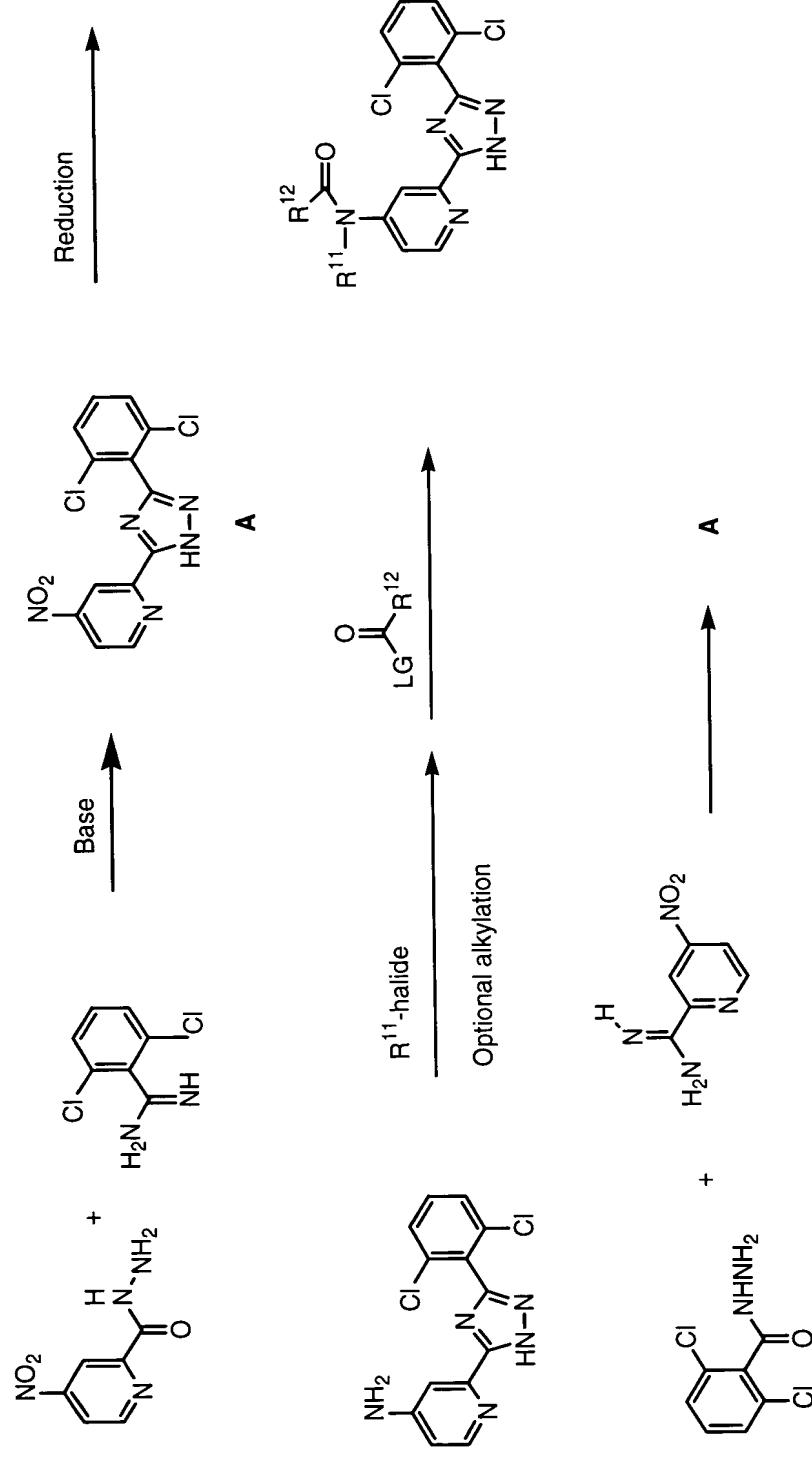


FIG. 12A

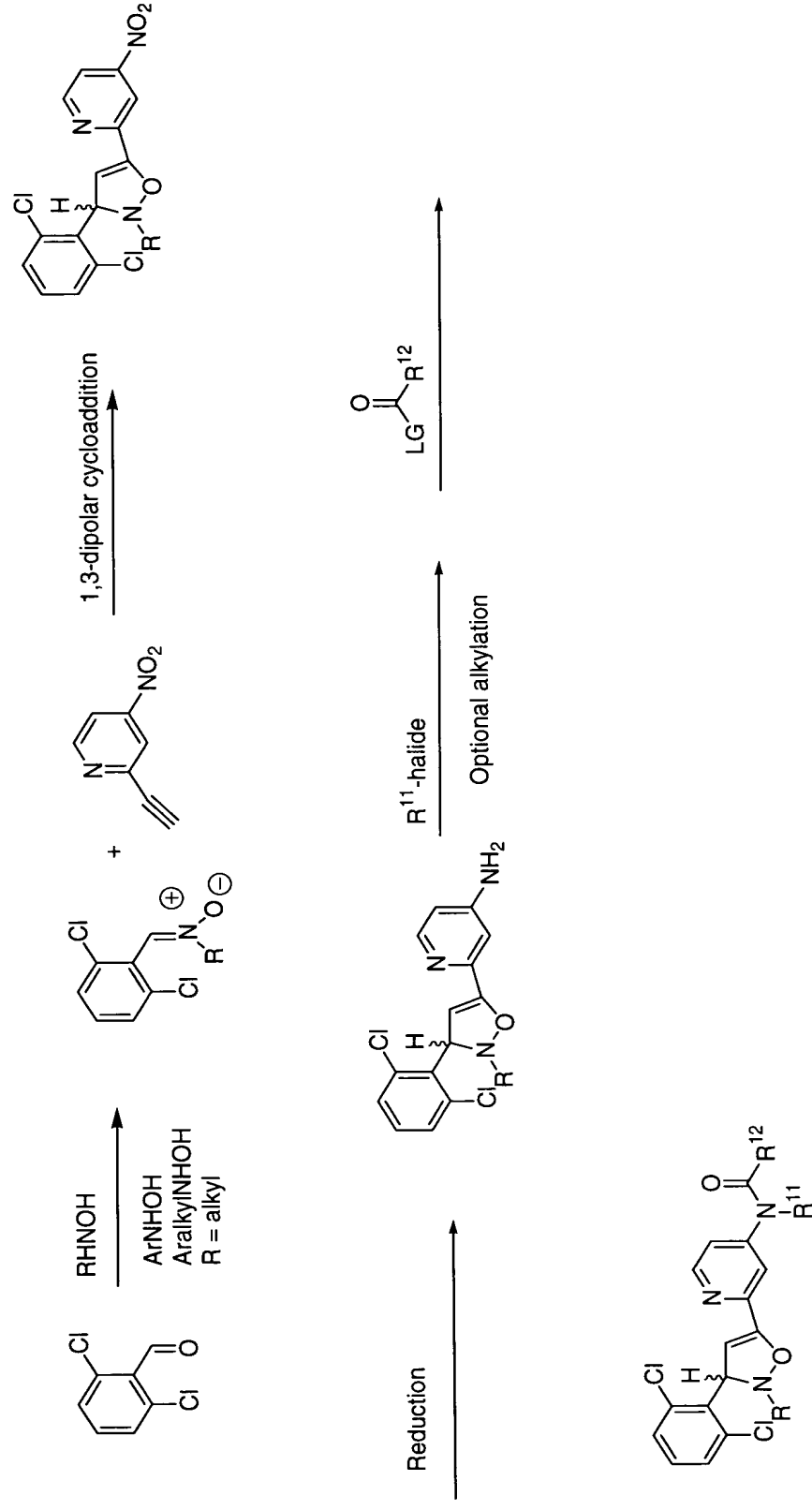


FIG. 12B

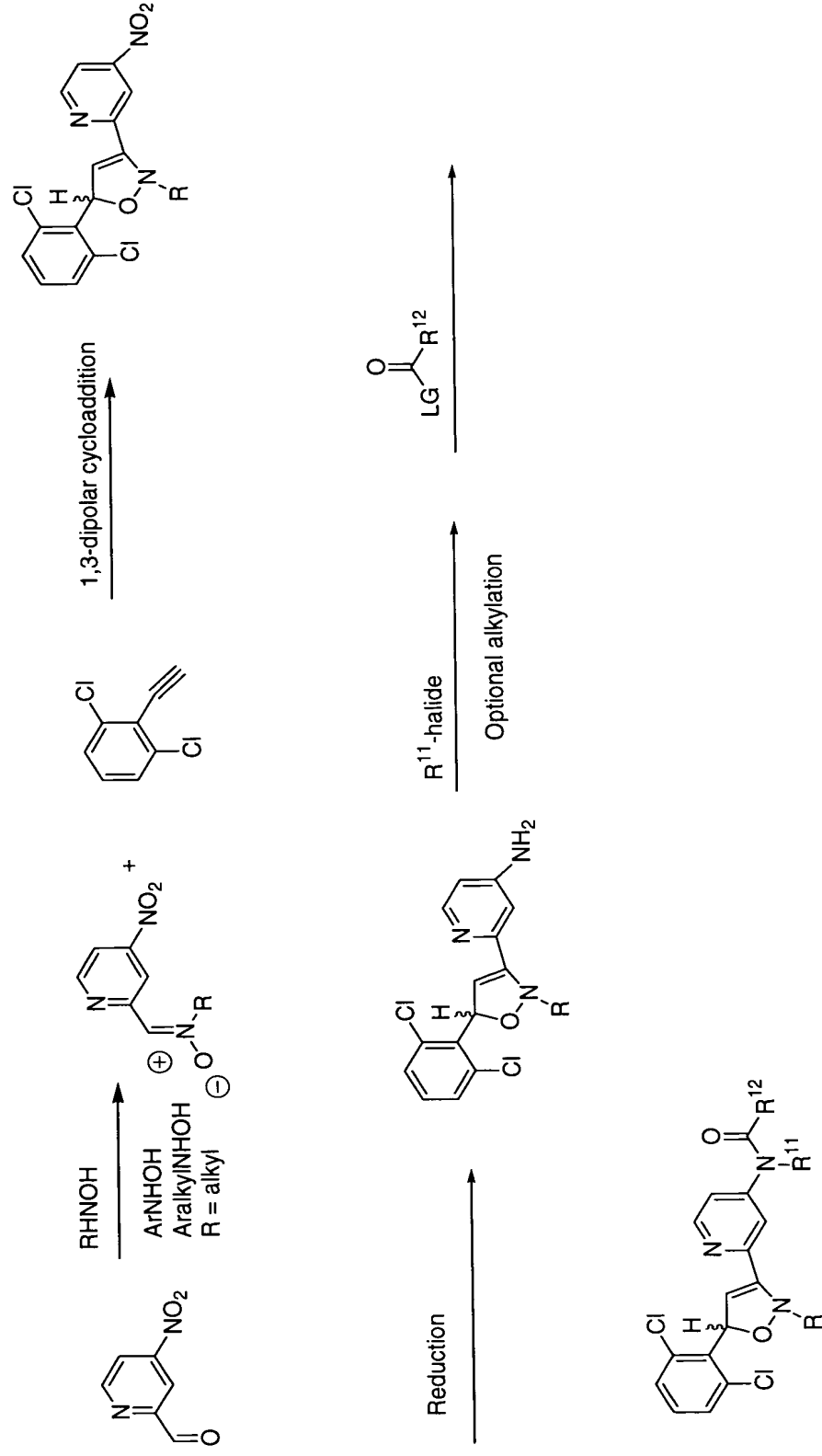


FIG. 12C

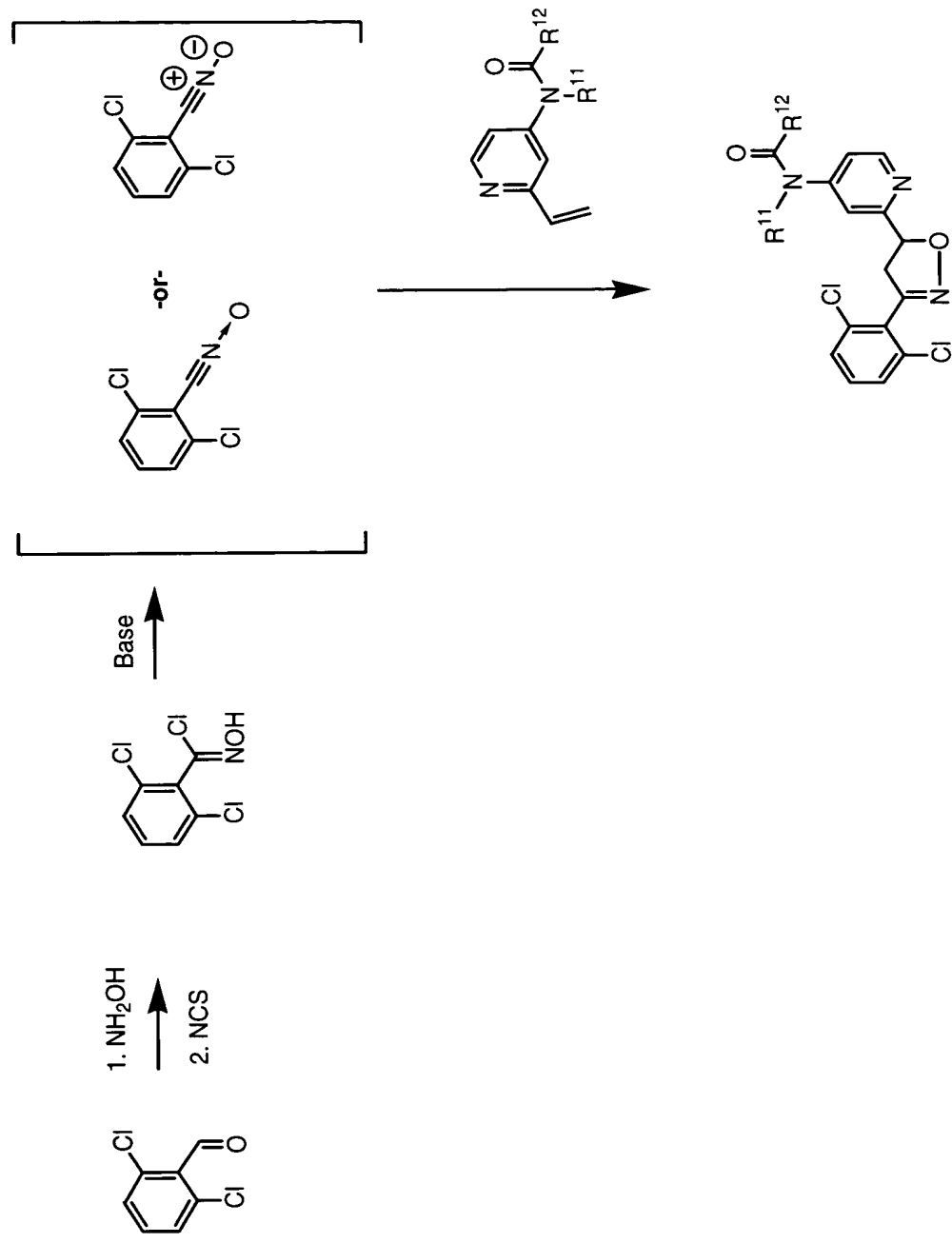


FIG. 12D

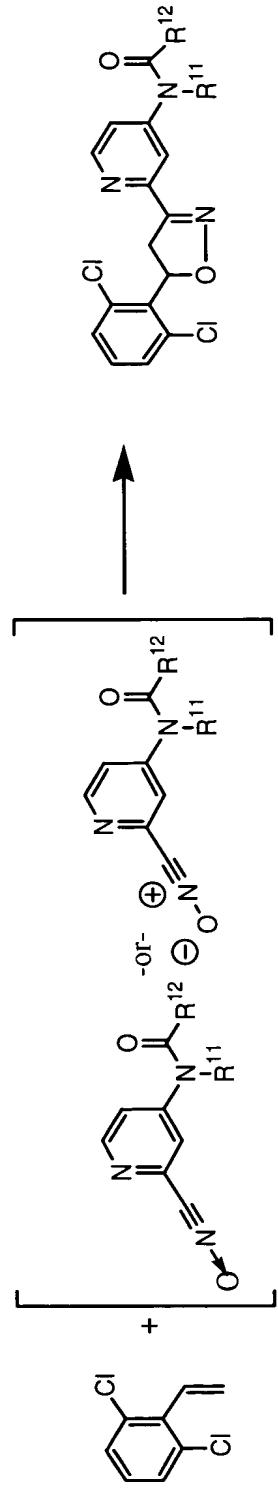


FIG. 12E

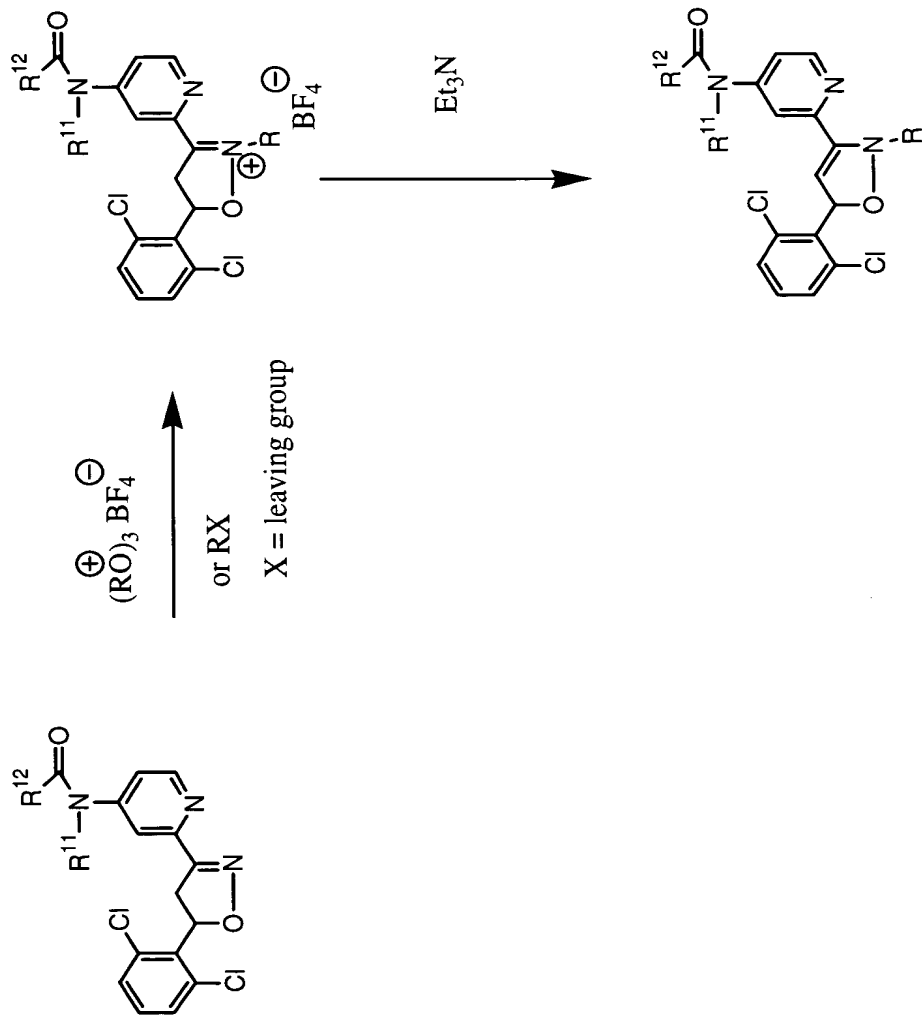


FIG. 13

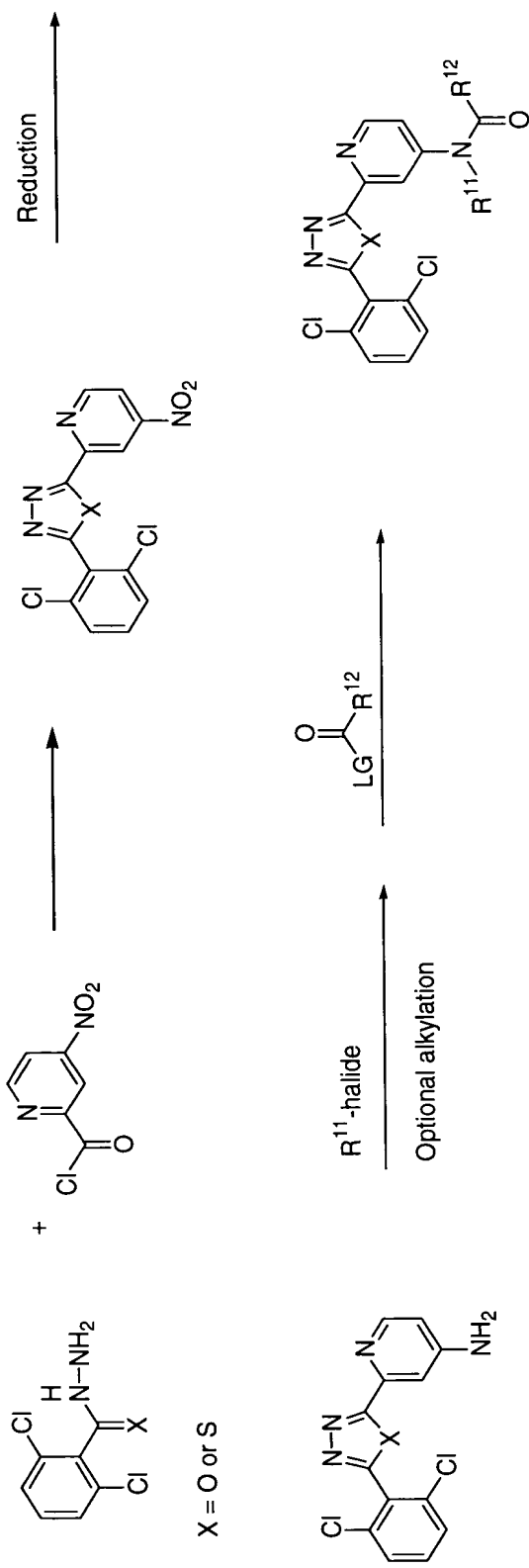


FIG. 14

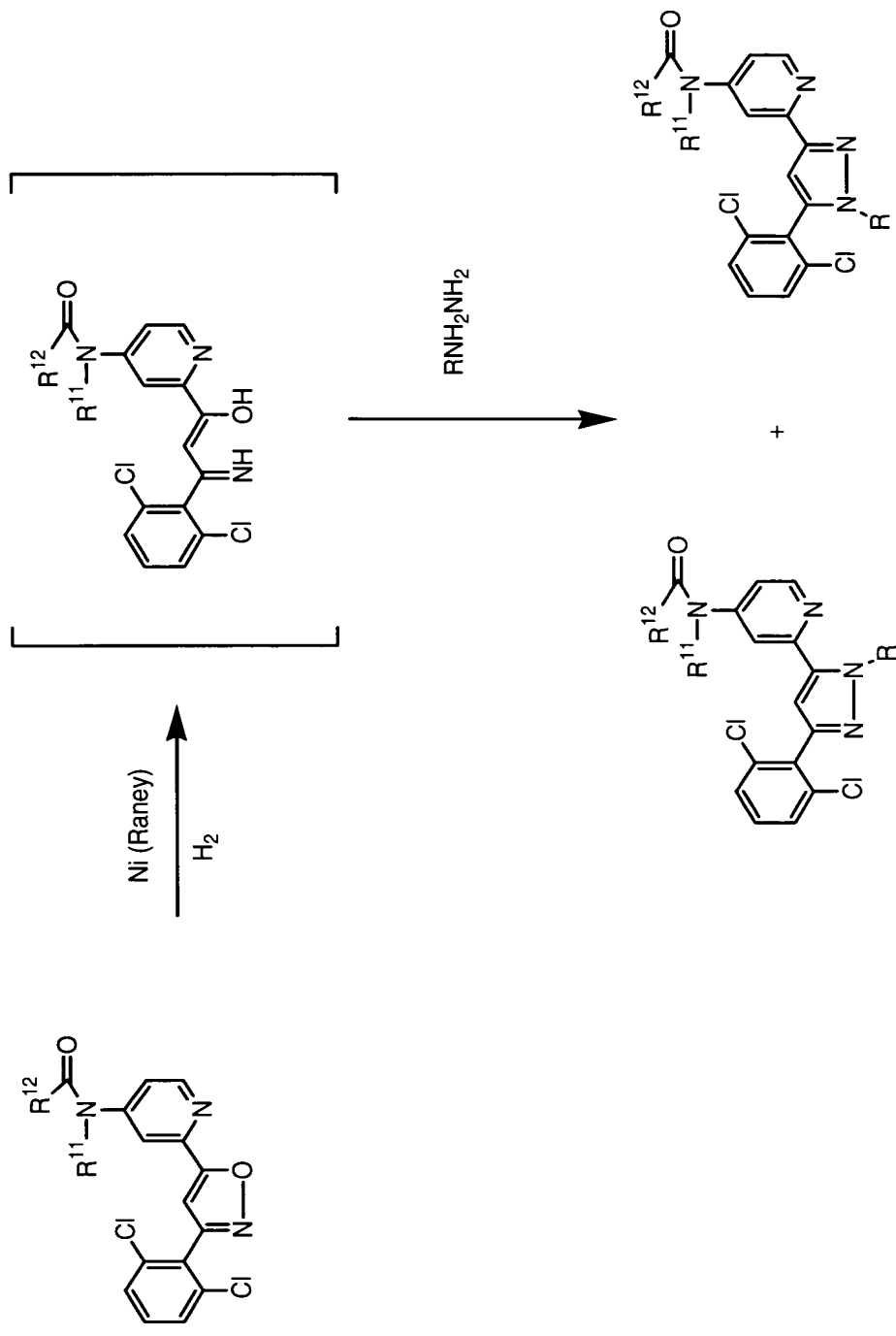
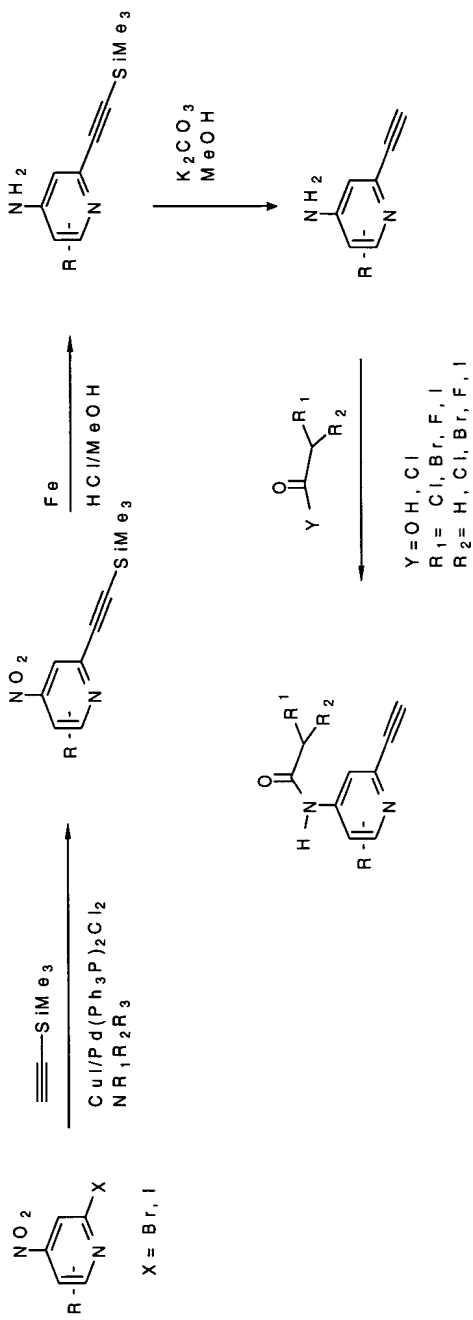


Figure 15

Method F



Method G

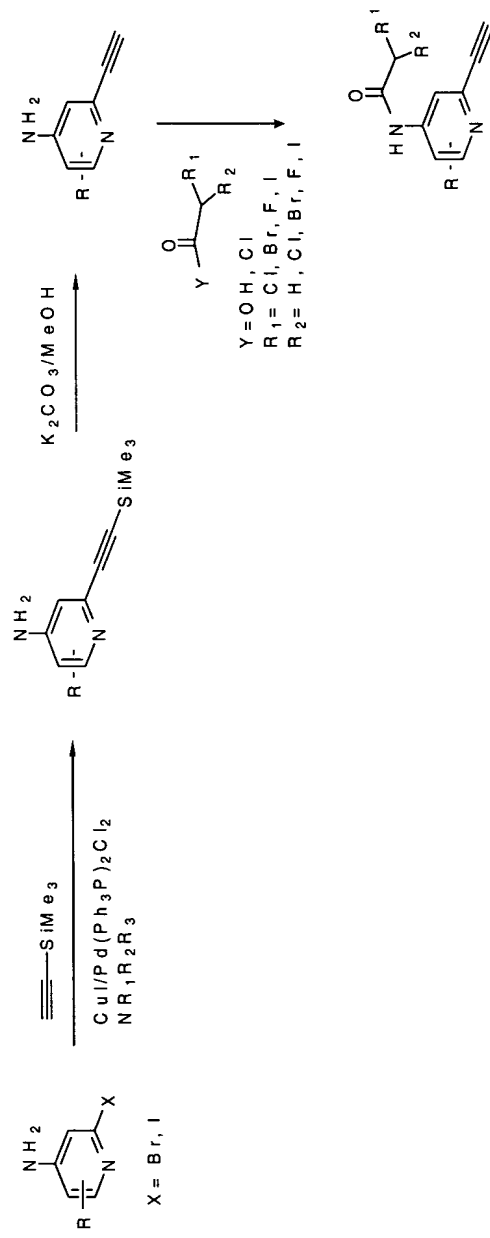
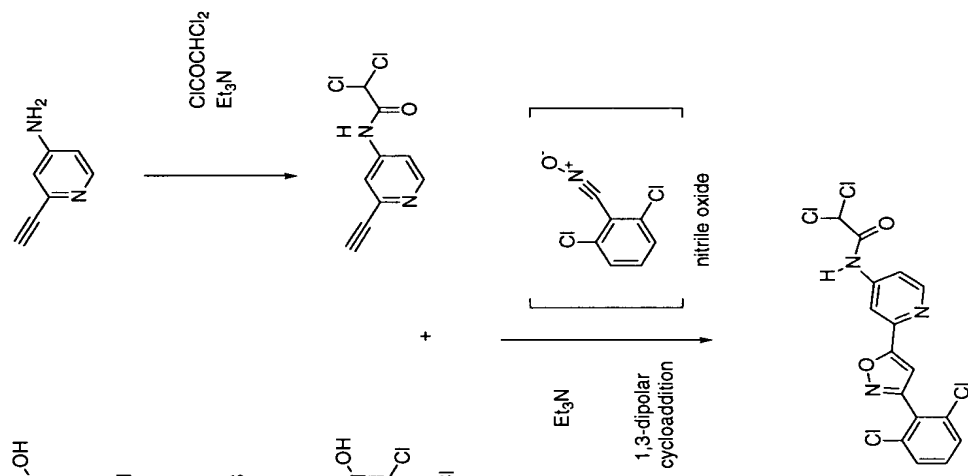


Figure 16
Para C-ring phenyl isomer - isoxazole series



Method H

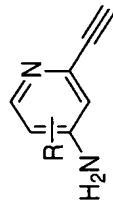


Figure 17

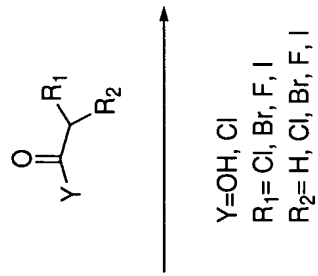


Figure 18
Reverse meta-isoxazole

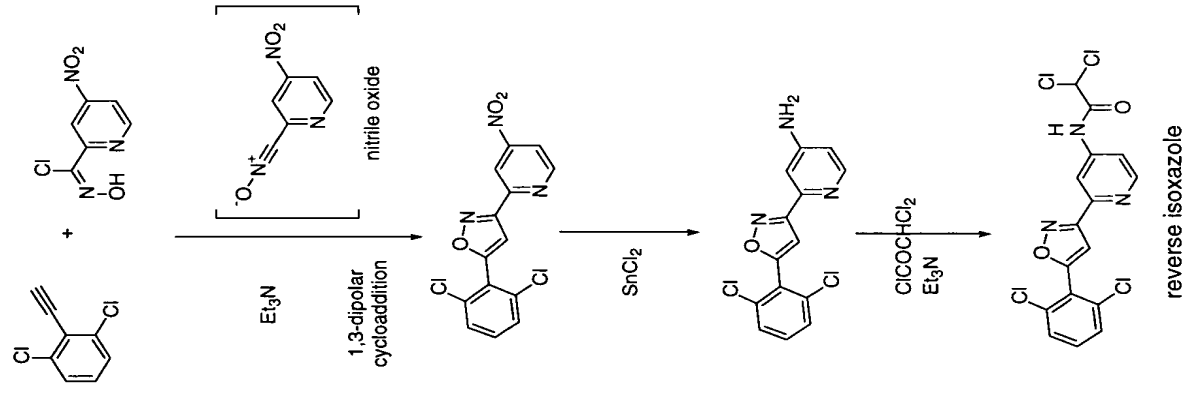


Figure 19
Reverse 2-isoxazoline

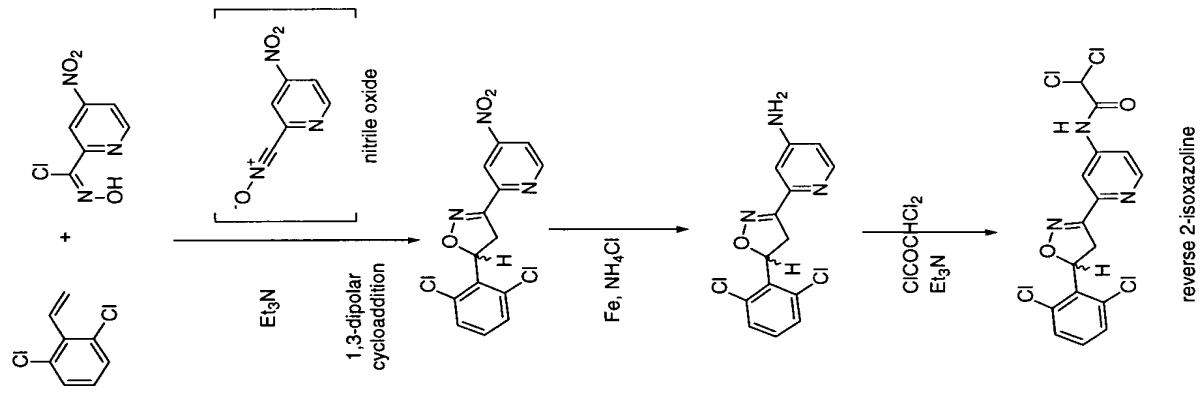


Figure 20
2-Isoxazoline

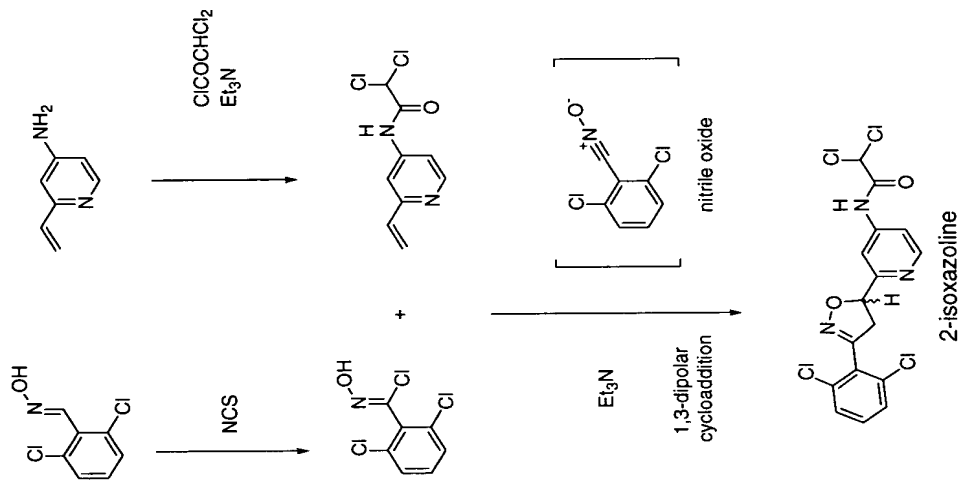


Figure 21
4-Isoxazoline

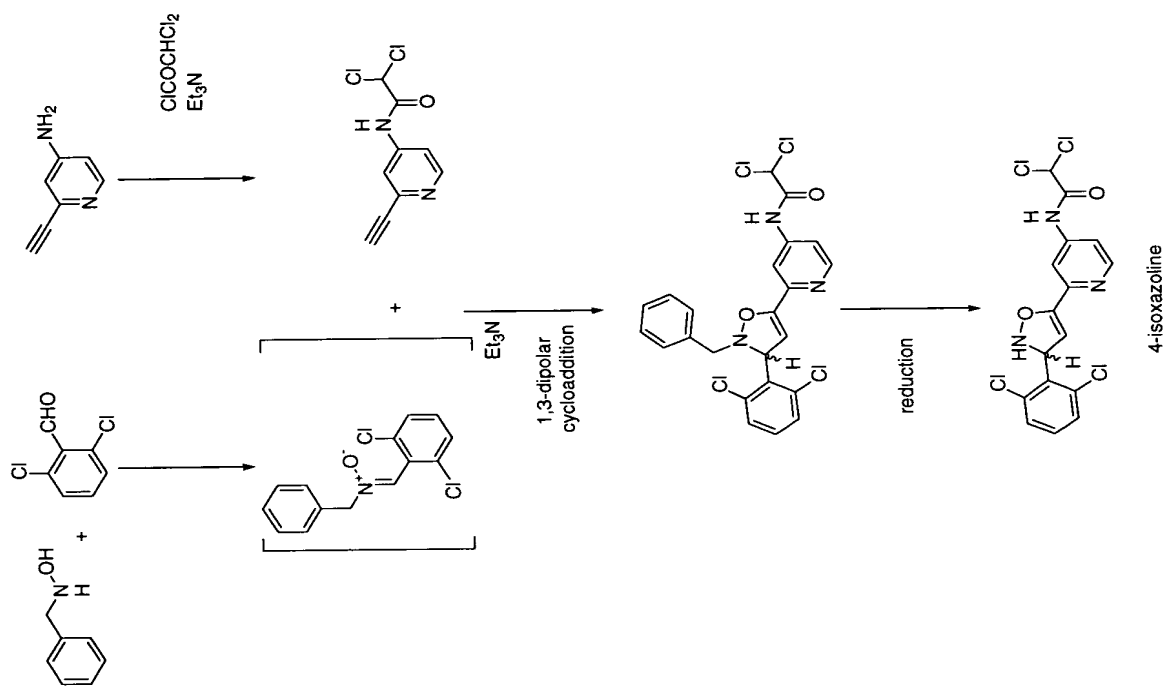


Figure 22
Reverse 4-Isoxazoline

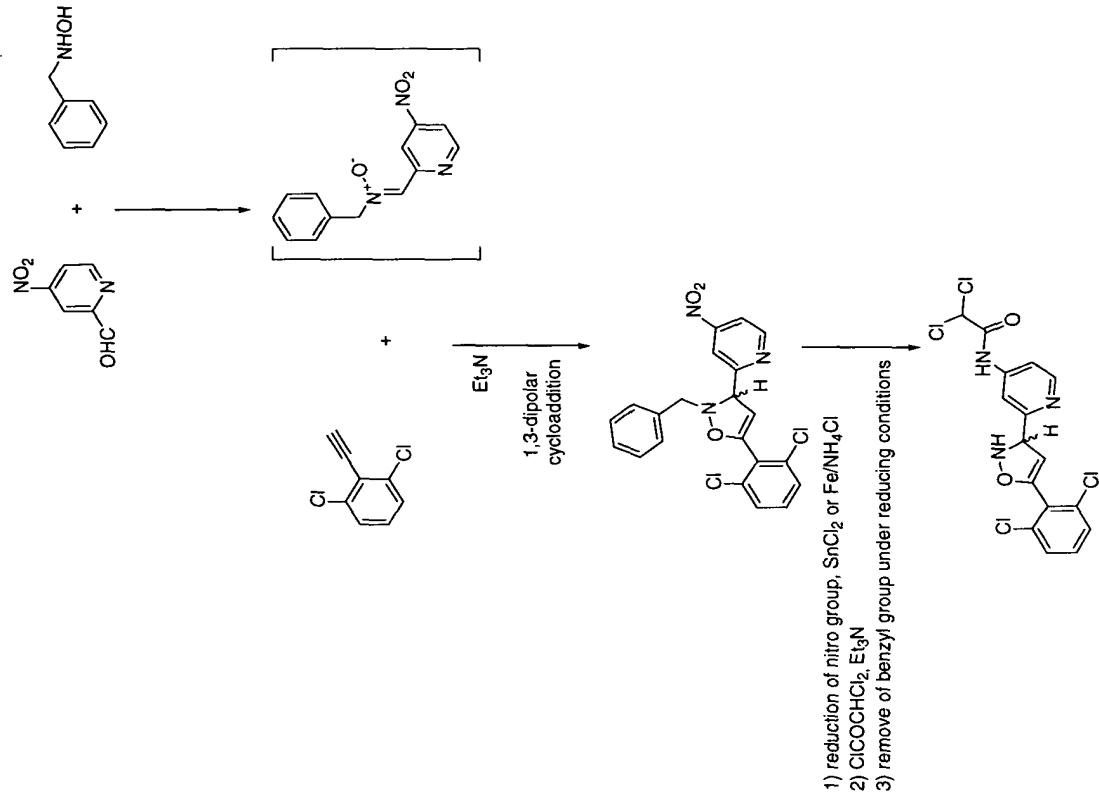


Figure 23
3-Isoxazoline

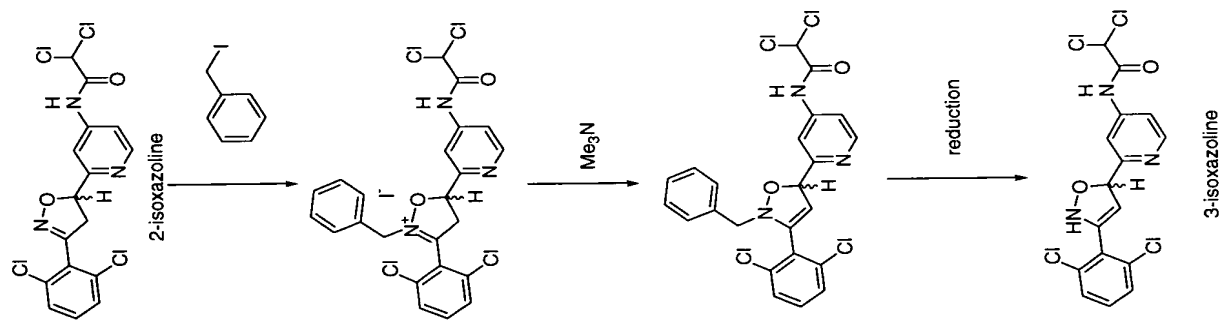


Figure 24
Reverse 3-isoxazoline

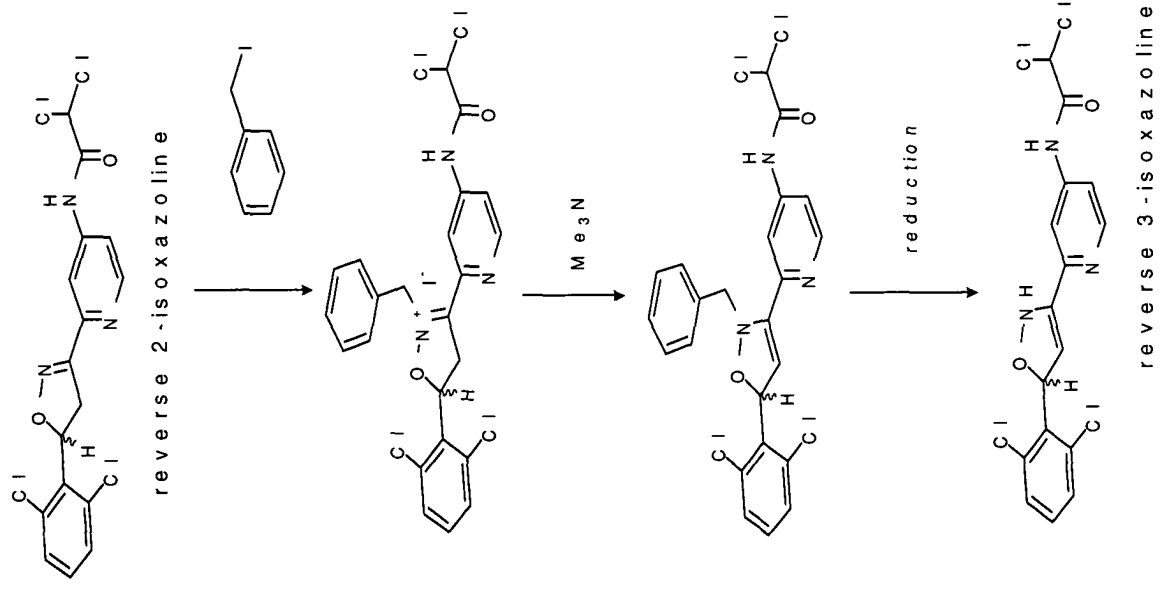


Figure 25
Isoxazolidines

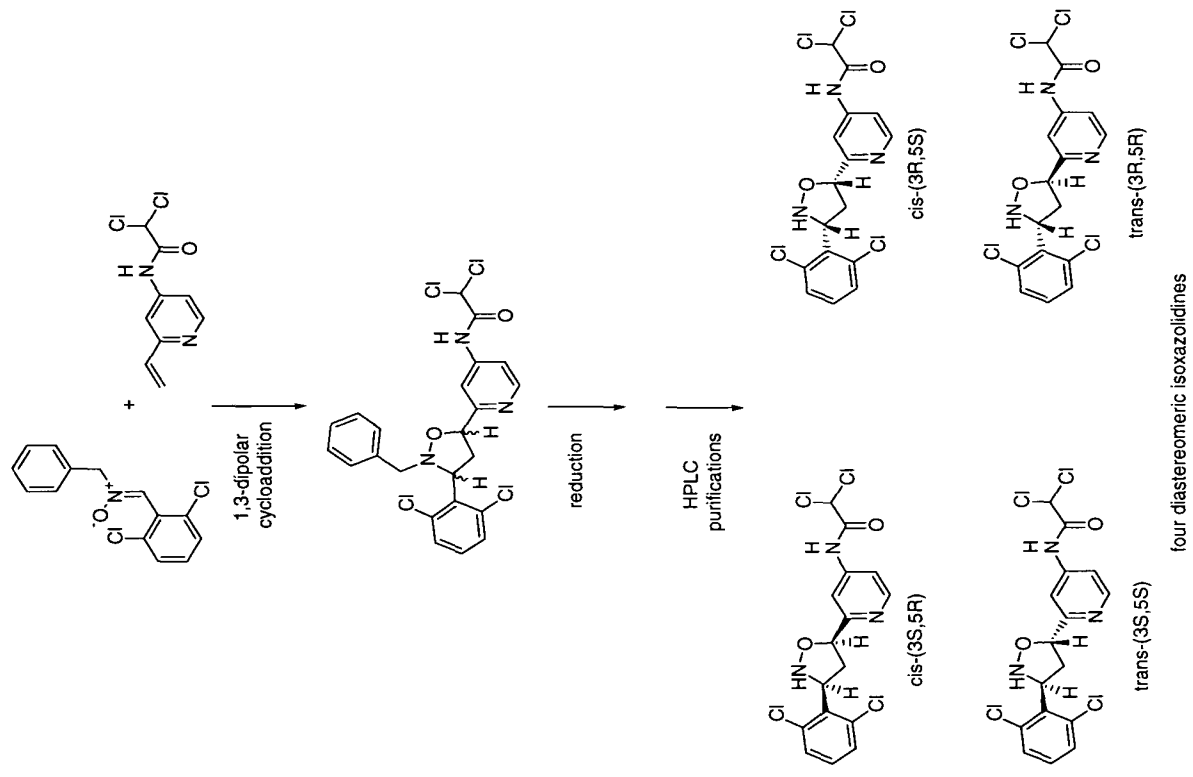


Figure 26
Reverse isoxazolidines

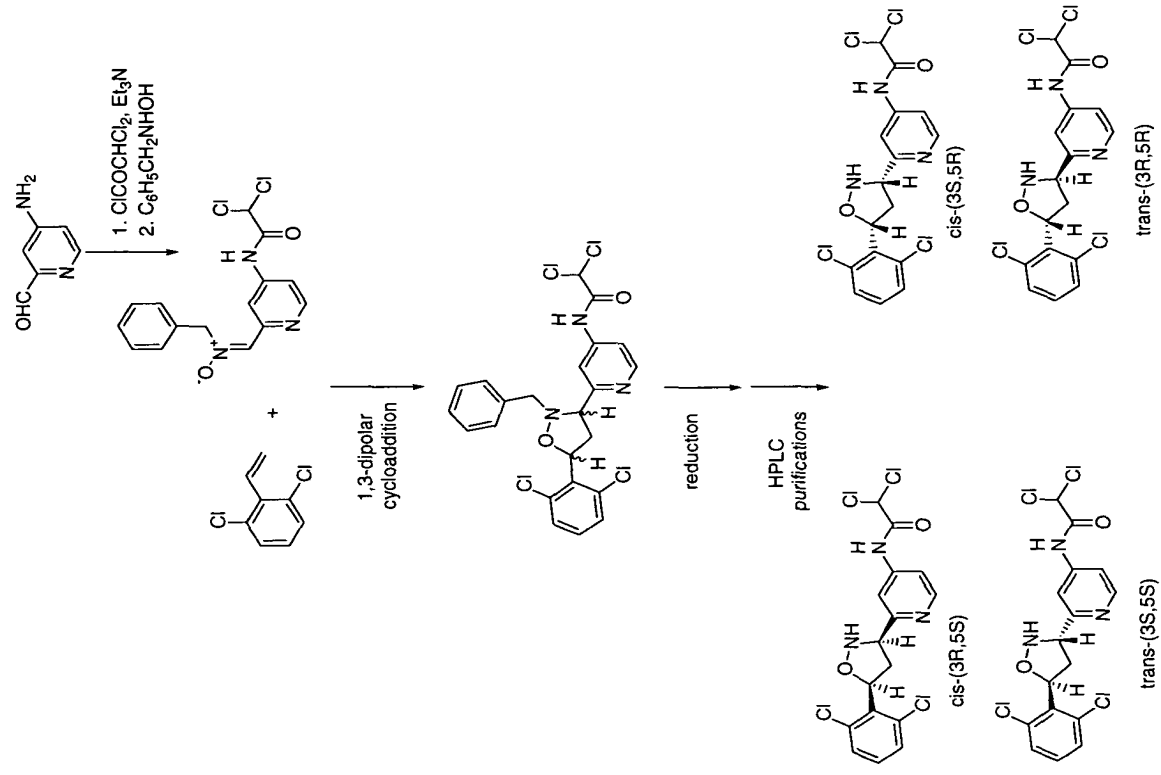
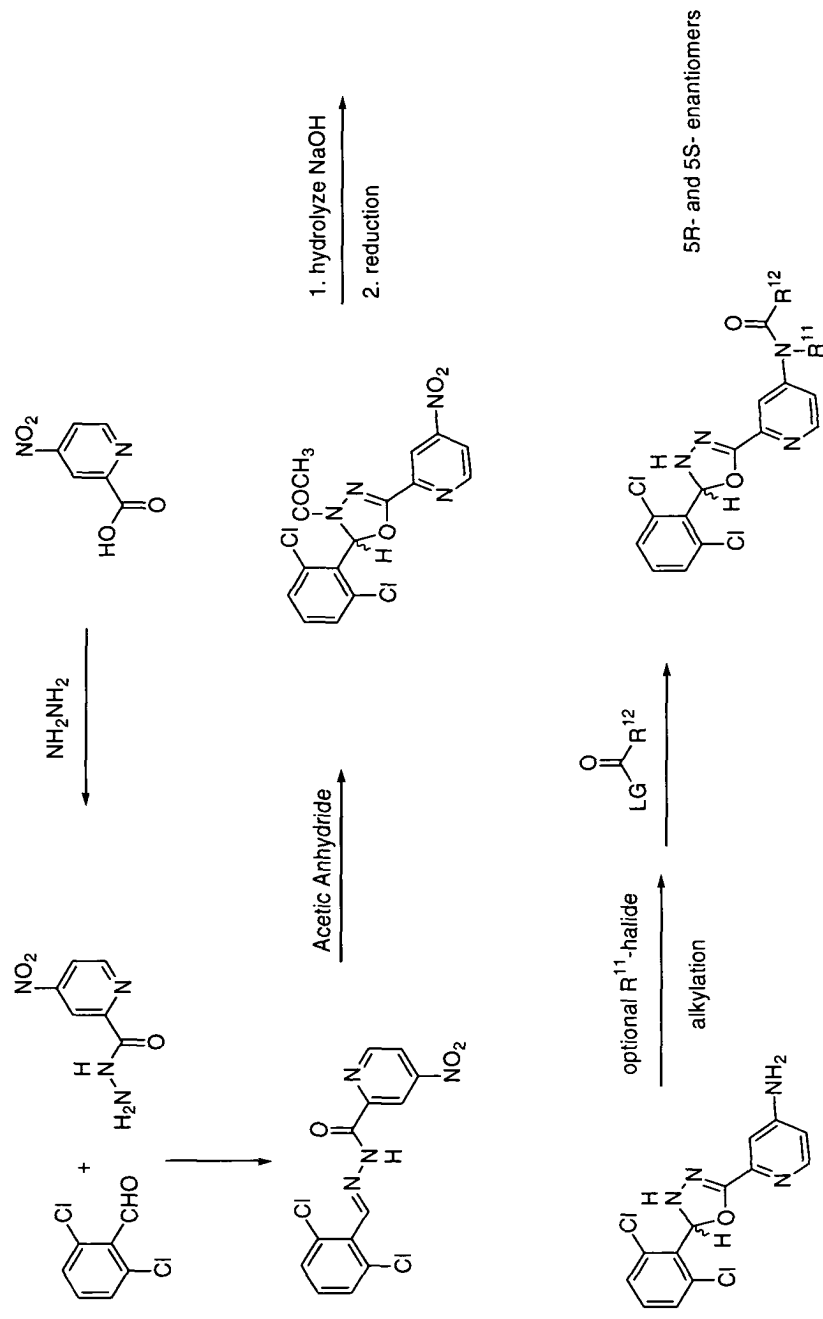


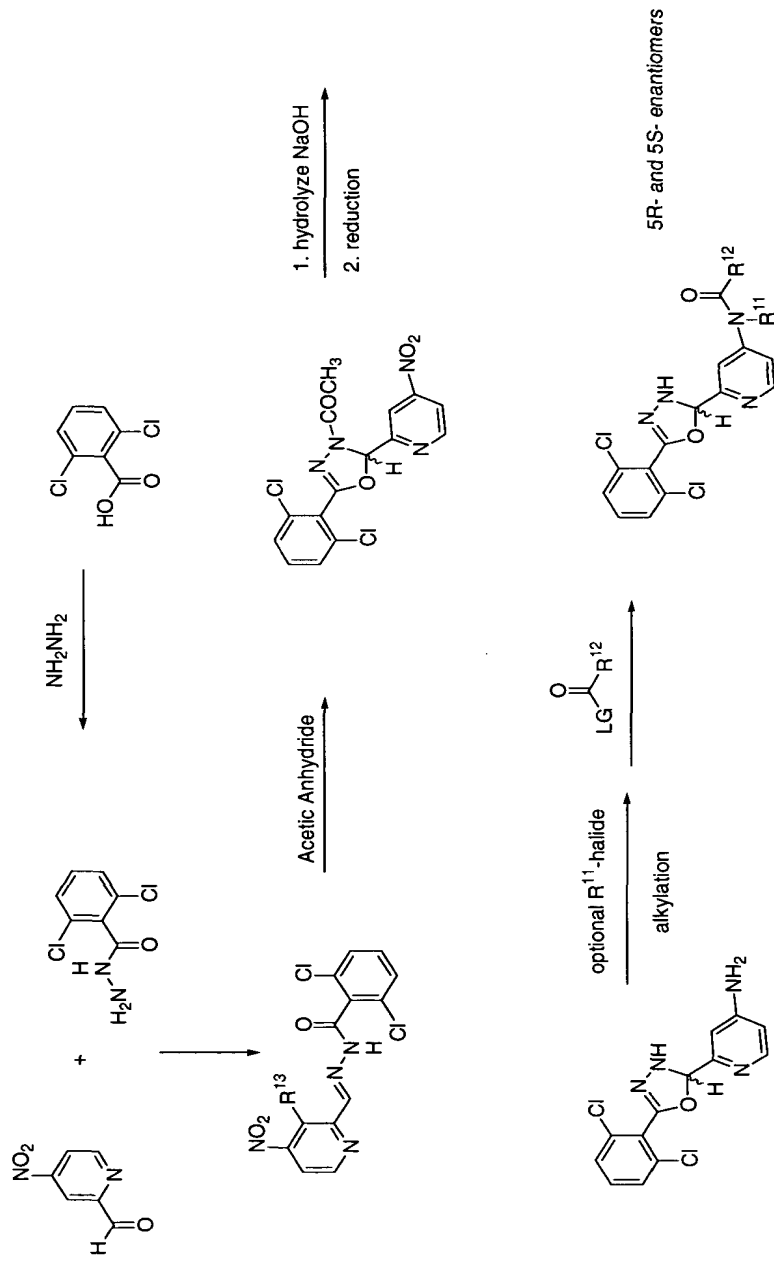
Figure 28
4,5-dihydro-oxadiazoles



Representative Reference:

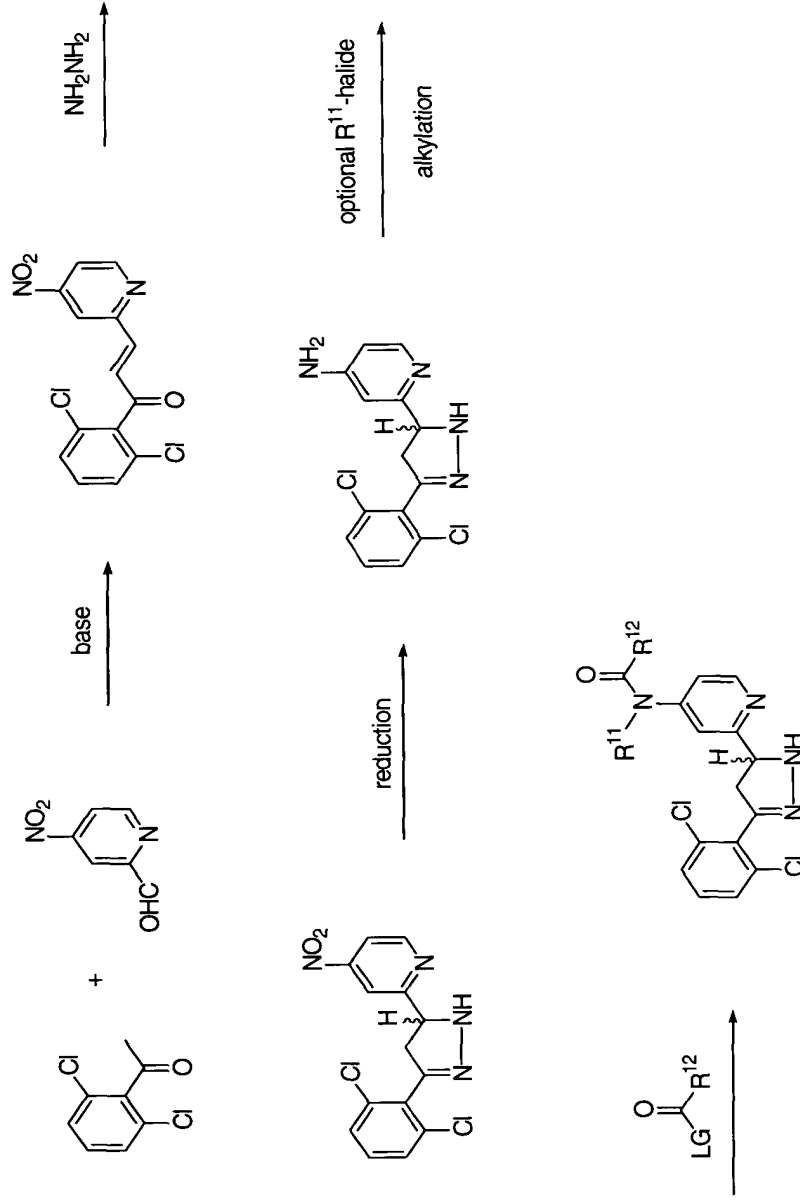
J.Chem.Research, Synopses, 1995, 88-89.

Figure 29
Reverse 4,5-dihydro-oxadiazoles



Representative Reference:
J.Chem.Research, Synopses, 1995, 88-89.

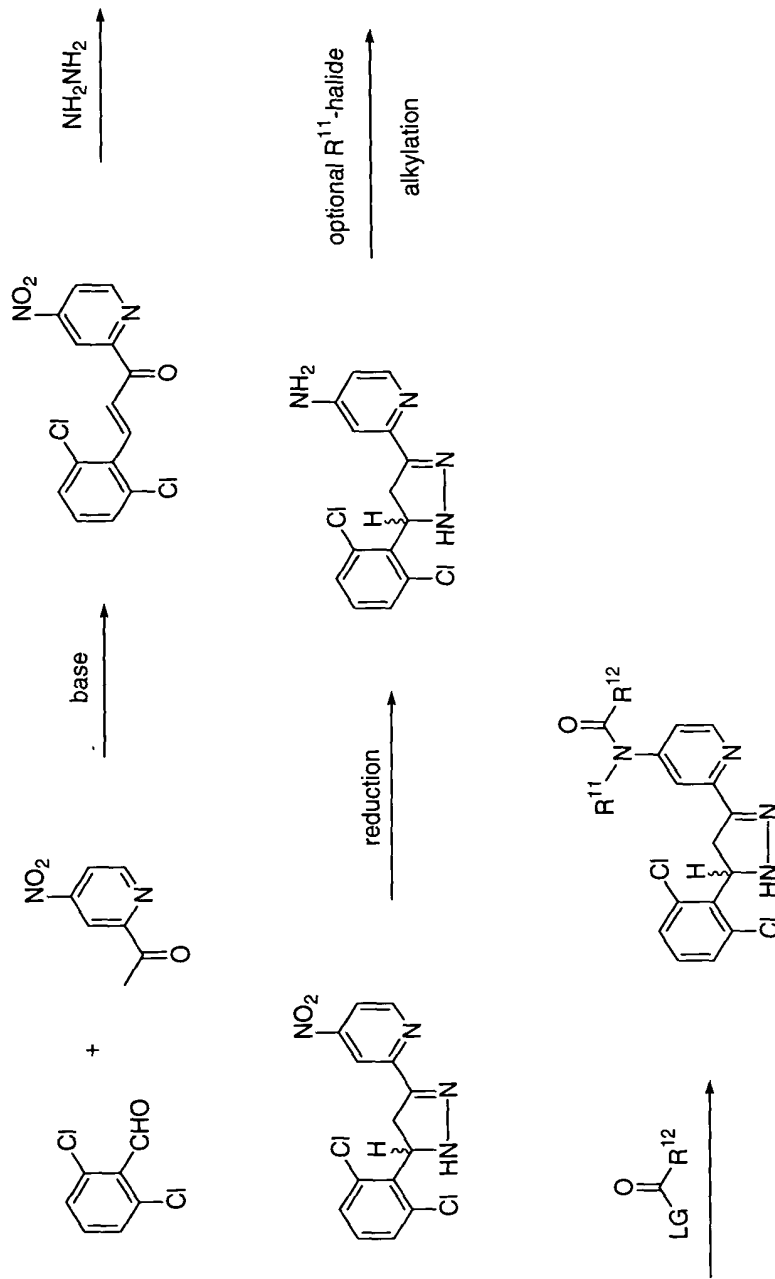
Figure 30
2-pyrazolines



5R- and 5S- enantiomers

Representative Reference:
Oriental J.Chem, 2001,17, 513-514.

Figure 31
reverse 2-pyrazolines

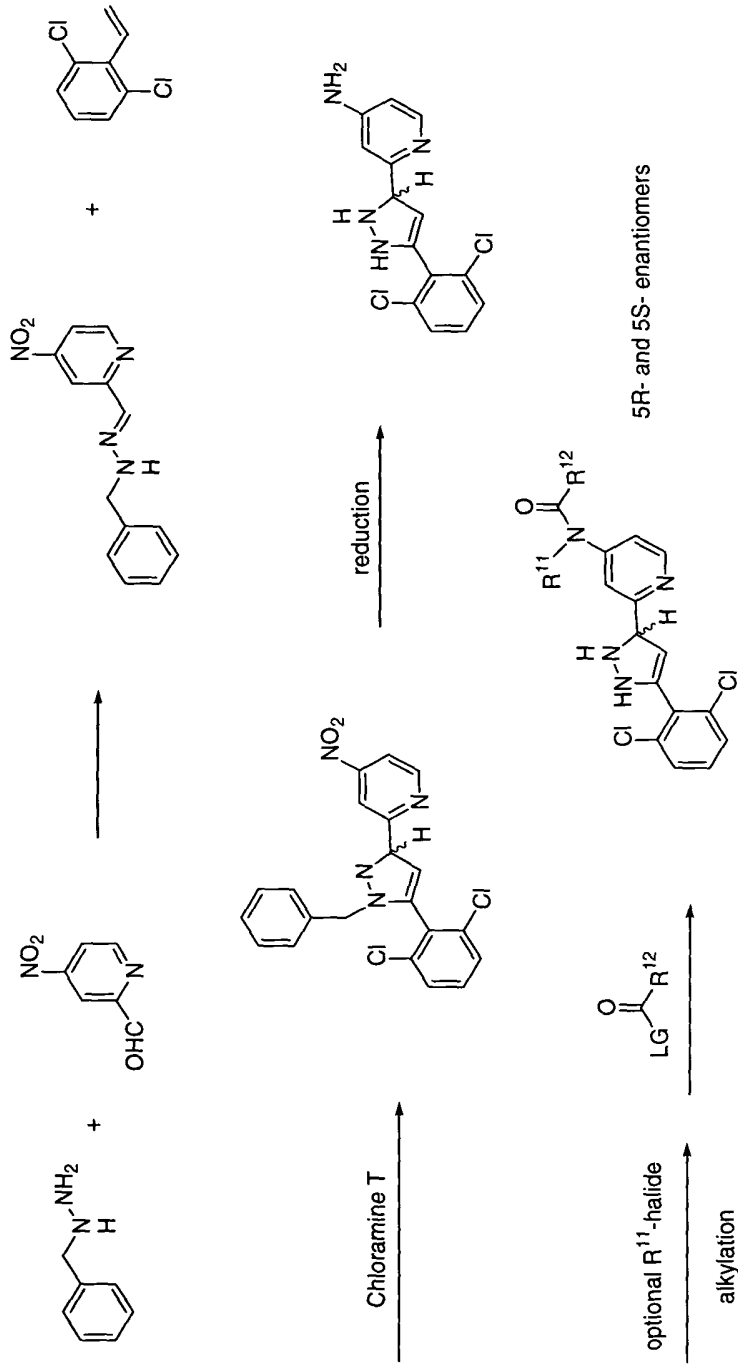


5R- and 5S- enantiomers

Representative Reference:

Oriental J.Chem., 2001, 17, 513-514.

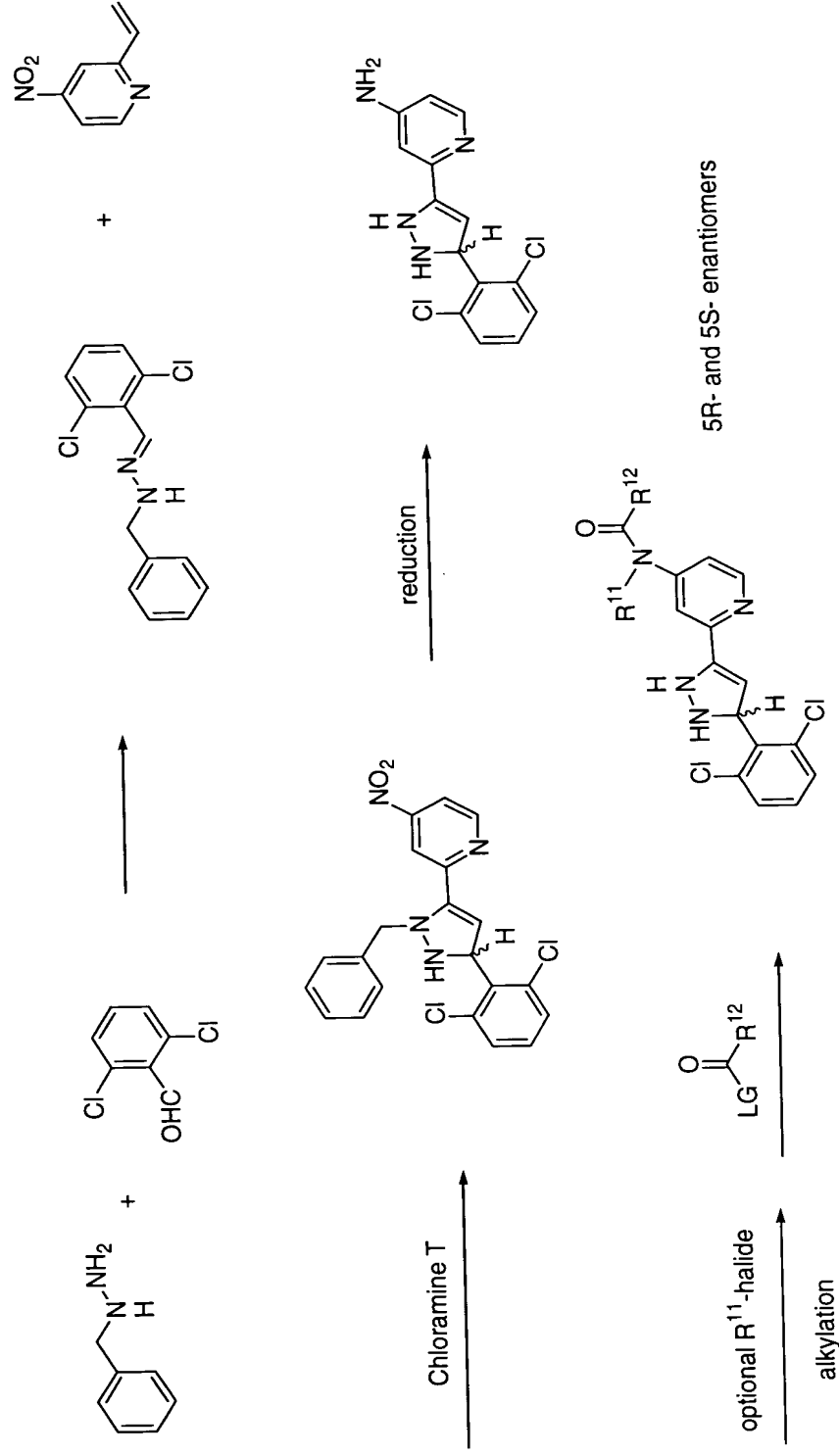
Figure 32
3-pyrazolines



Representative Reference:

Synth. Commun., 1989, 19, 2799-2807.

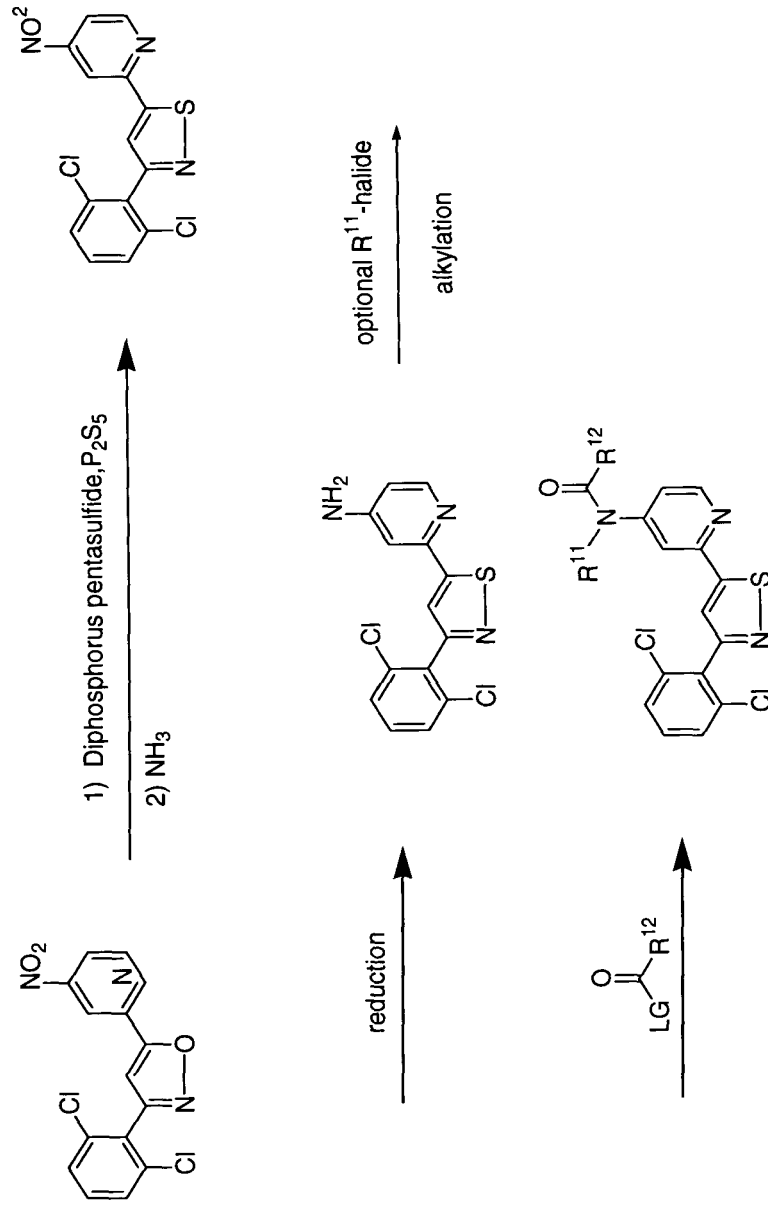
Figure 33
Reverse 3-pyrazolines



Representative Reference:

Synth. Commun., 1989,19, 2799-2807.

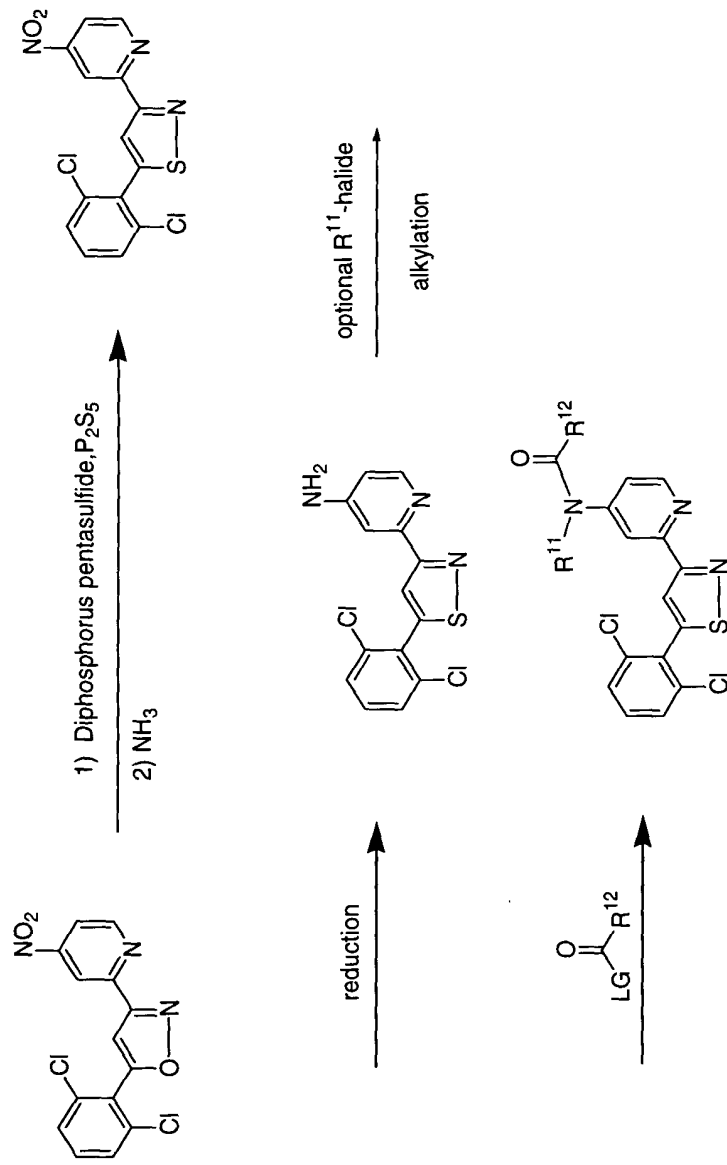
Figure 34
Isothiazole



Representative Reference:

Tetrahedron, 1992, 48, 8127-8142.

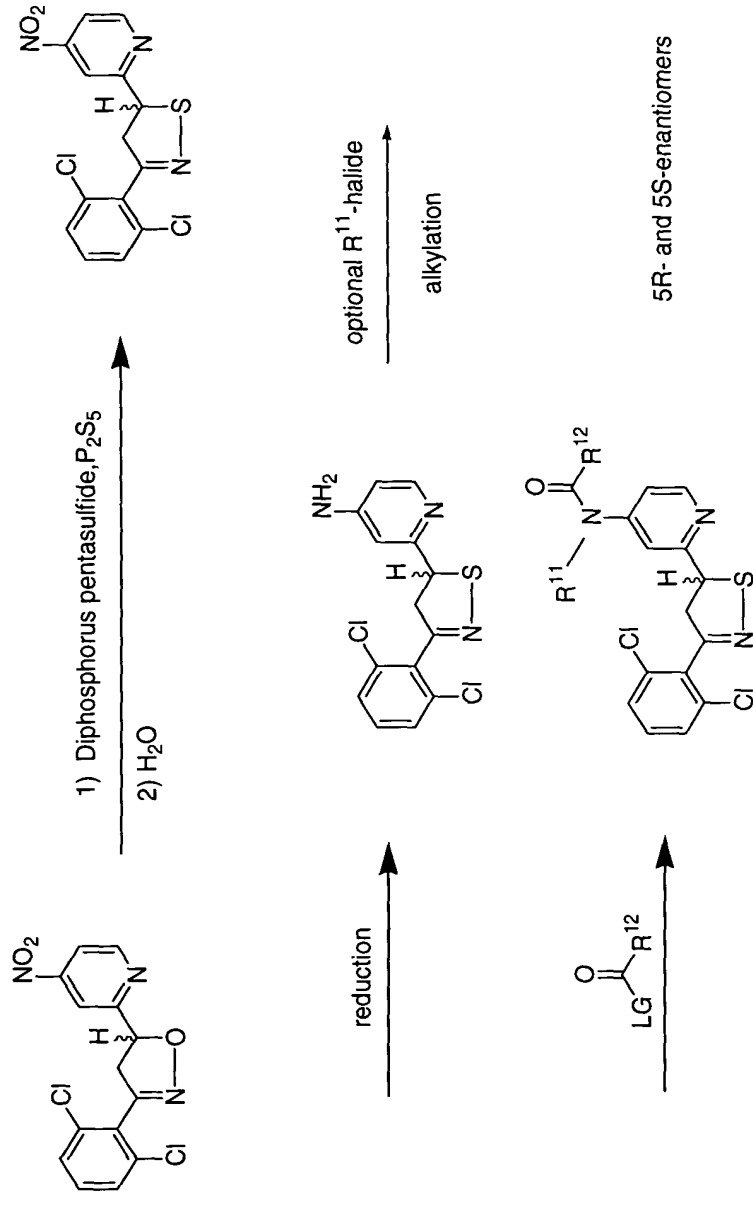
Figure 35
Reverse Isothiazole



Representative Reference:

Tetrahedron, 1992, 48, 8127-8142.

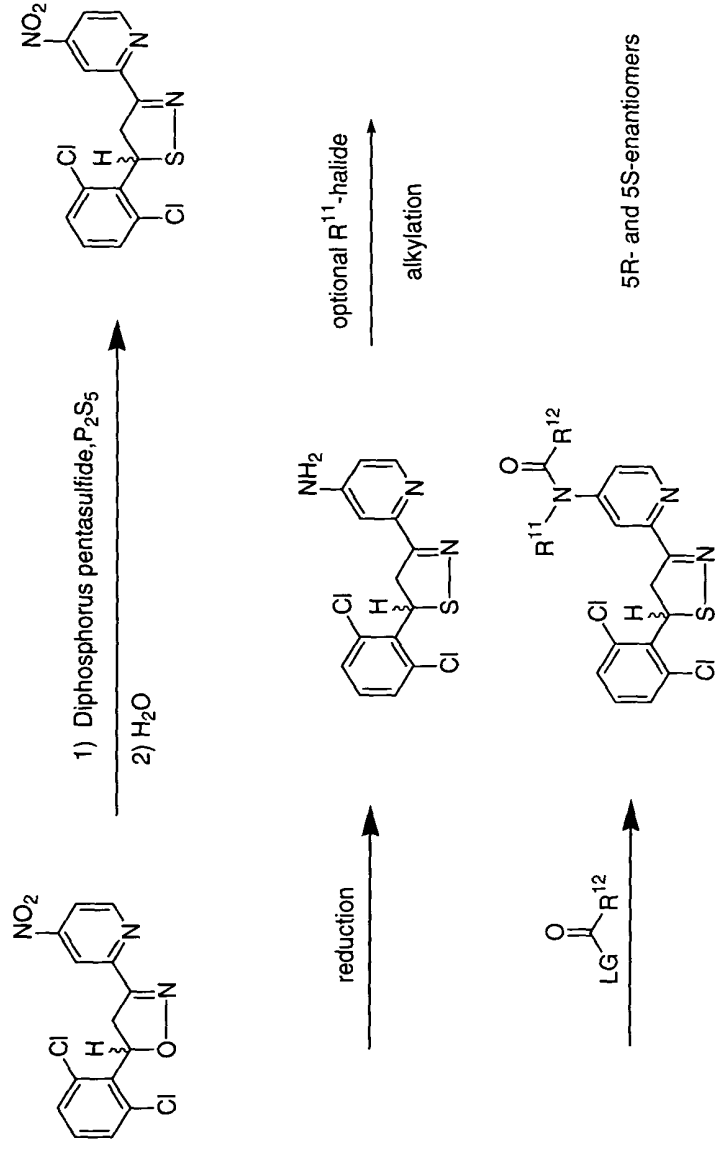
Figure 36
2-Isothiazoline



Representative Reference:

Asian J.Chem., 2000, 12, 1358-1360.

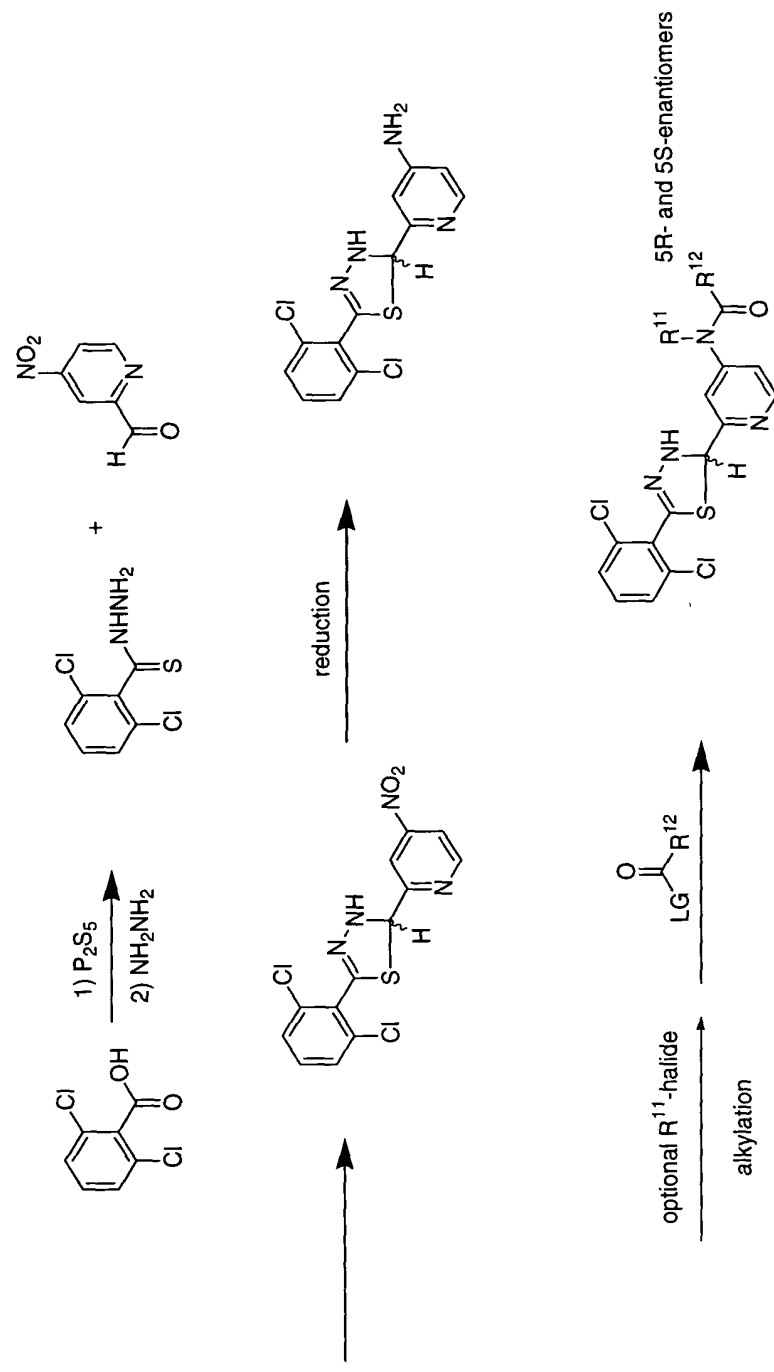
Figure 37
Reverse 2-Isothiazoline



Representative Reference:

Asian J.Chem., 2000,12, 1358-1360.

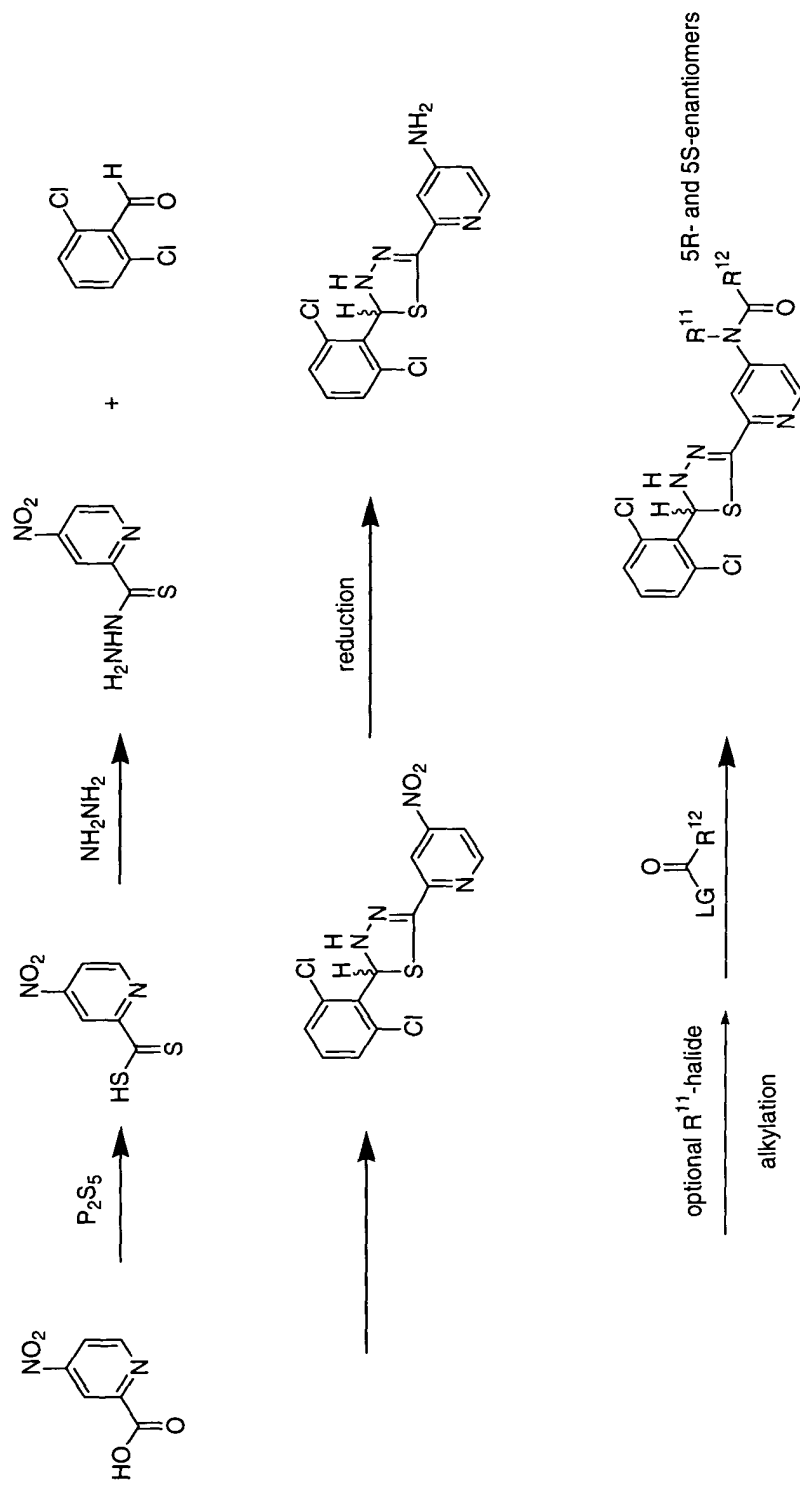
Figure 38
4,5-Dihydro-1,3,4-thiadiazole



Representative Reference:

Sovrem. Aspekty Terorii i
Prakt. Farmatsii, L., 1988, 90-96.

Figure 39
Reverse 4,5-Dihydro-1,3,4-thiadiazole

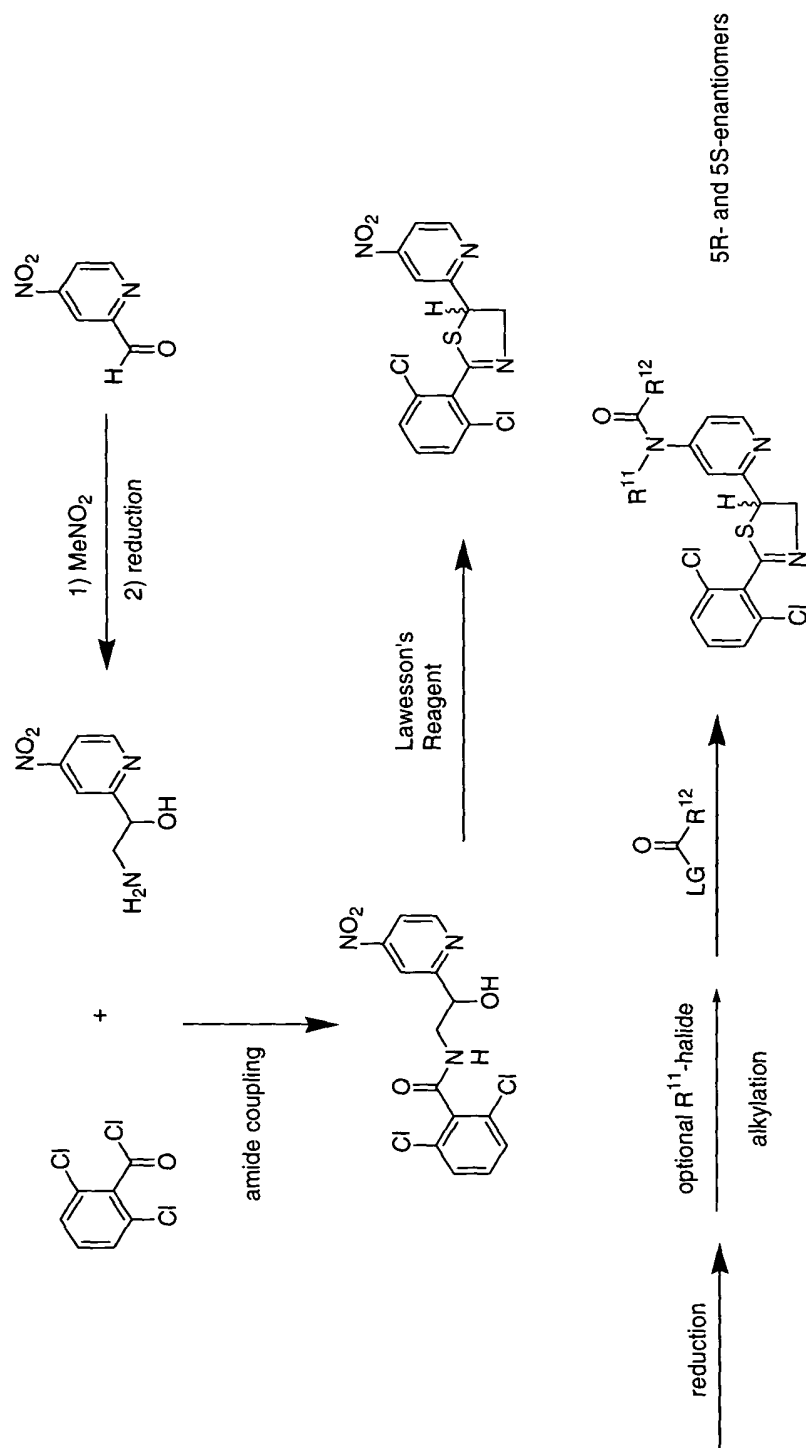


Representative Reference:

Sovrem. Aspekty Terorii i

Prakt. Farmatsii. L., 1988, 90-96.

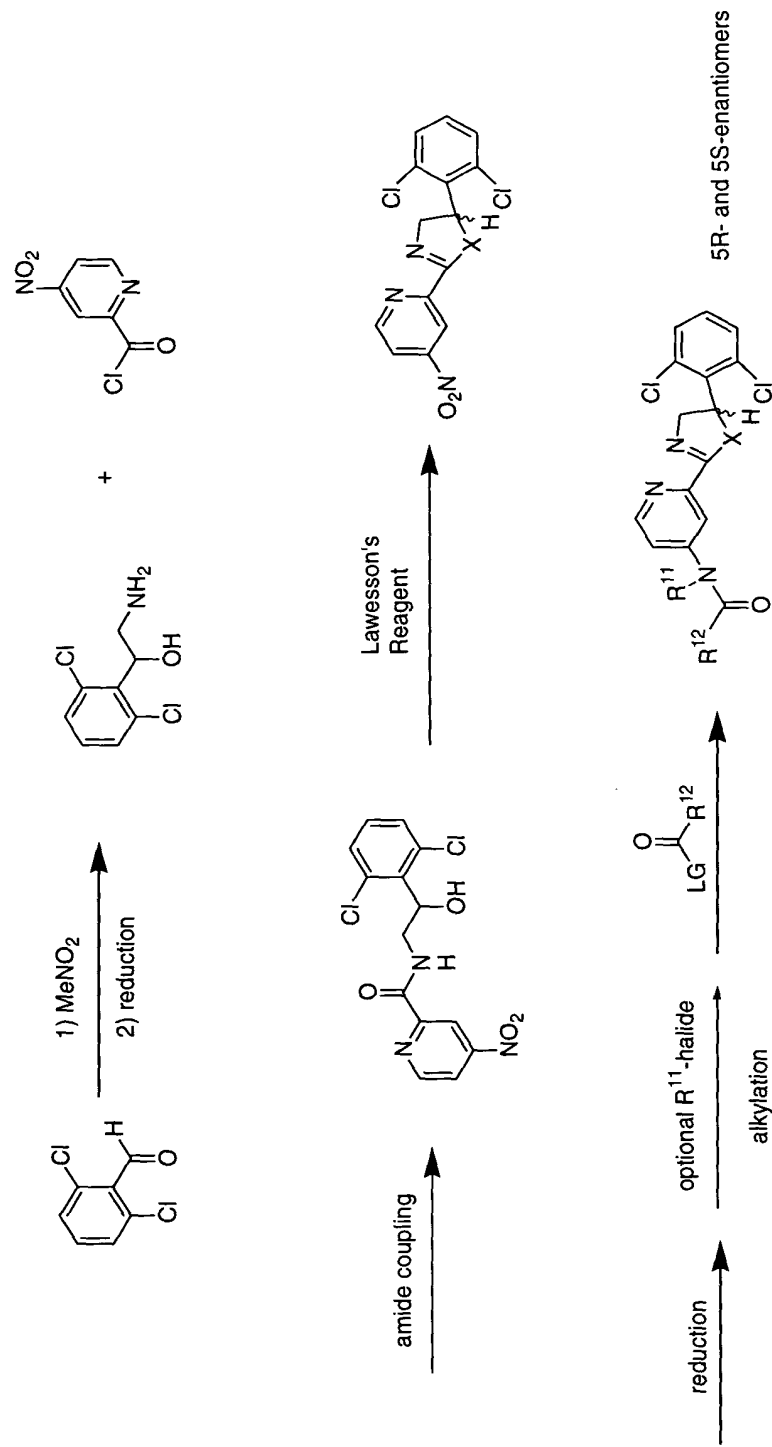
Figure 40
2-Thiazoline



Representative References:

Collection of Czechoslovak Chemical
Communications, 1978, 43(7), 1917-1923
J. Org. Chem., 1997, 62, 1106-1111.

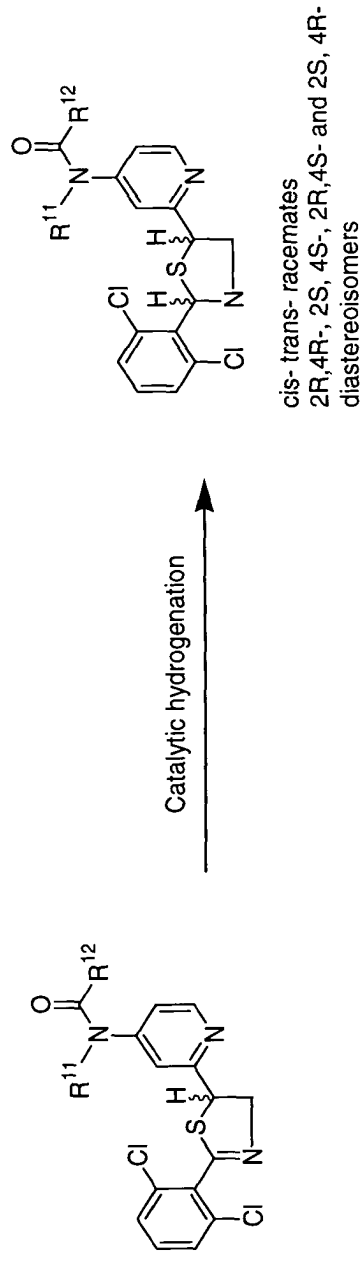
Figure 41
Reverse 2-Thiazoline



Representative References:

Collection of Czechoslovak Chemical
Communications, 1978, 43(7), 1917-1923
J. Org. Chem., 1997, 62, 1106-1111.

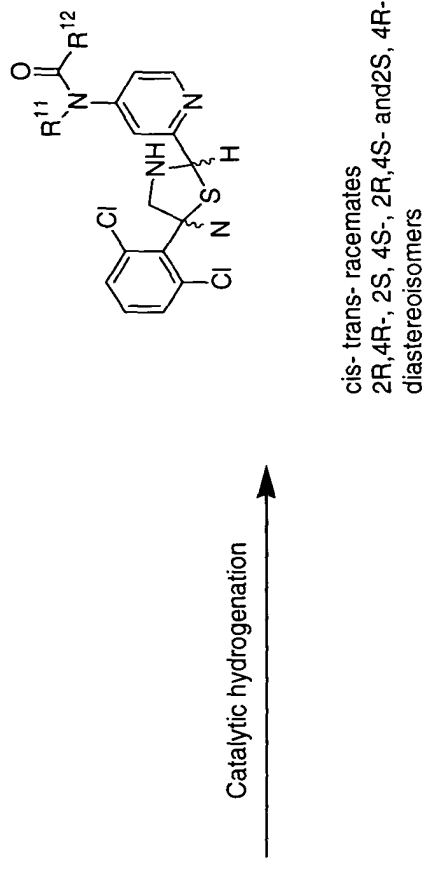
Figure 42
Thiazolidines



Representative Reference:

See March's Advanced Organic Chemistry 5th Ed
John Wiley & Sons, Inc. 2001, Topics related to
catalytic hydrogenation.

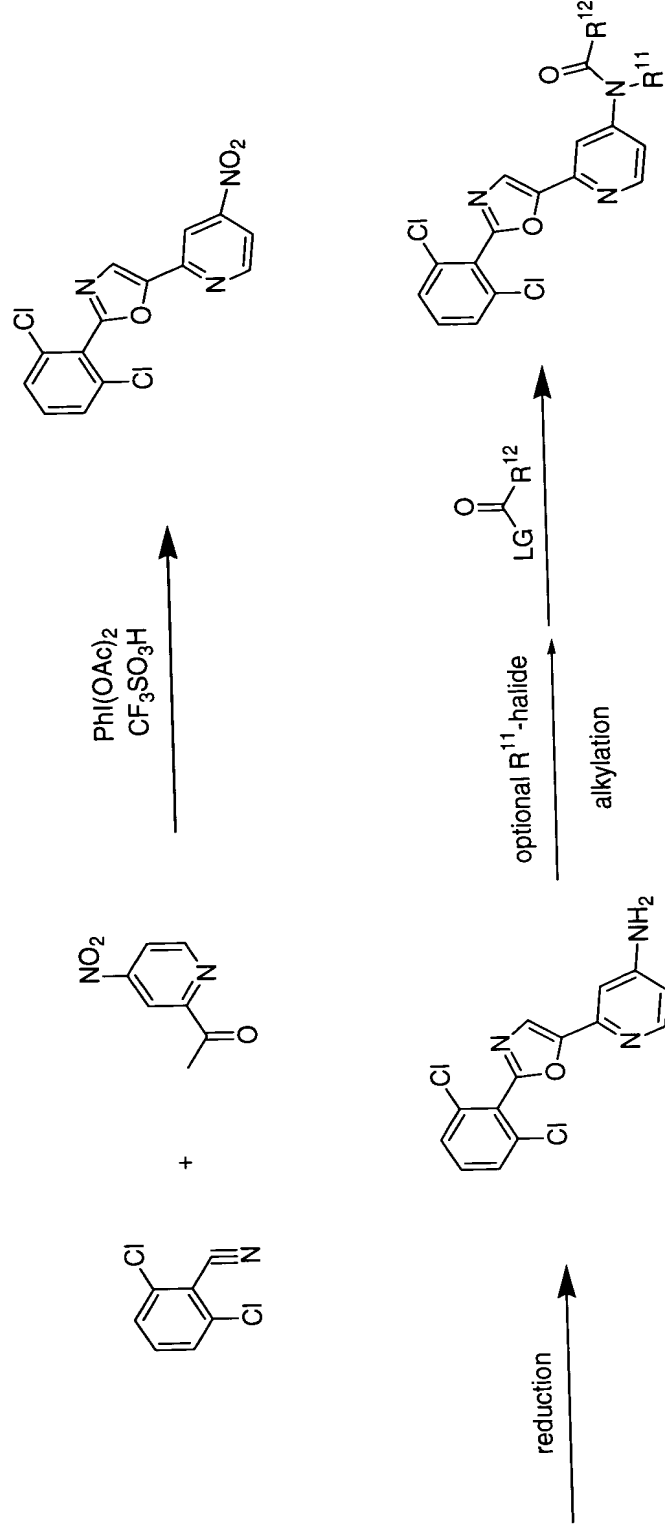
Figure 43
Reverse Thiazolidines



Representative Reference:

See March's Advanced Organic Chemistry 5th Ed
John Wiley & Sons, Inc. 2001, Topics related to
catalytic hydrogenation.

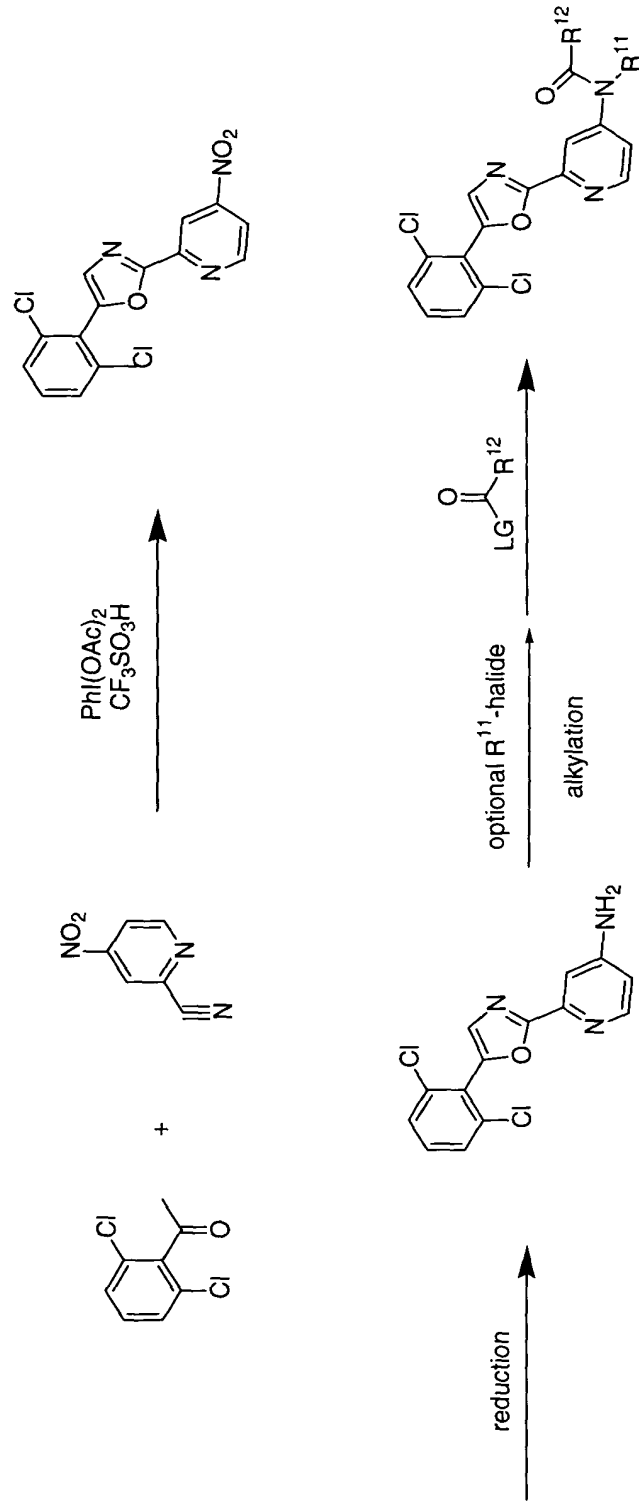
Figure 44
Oxazole



Representative Reference:

Varma, R.S et al J. of Heterocyclic Chem.,
1998, 35(6), 1533-1534

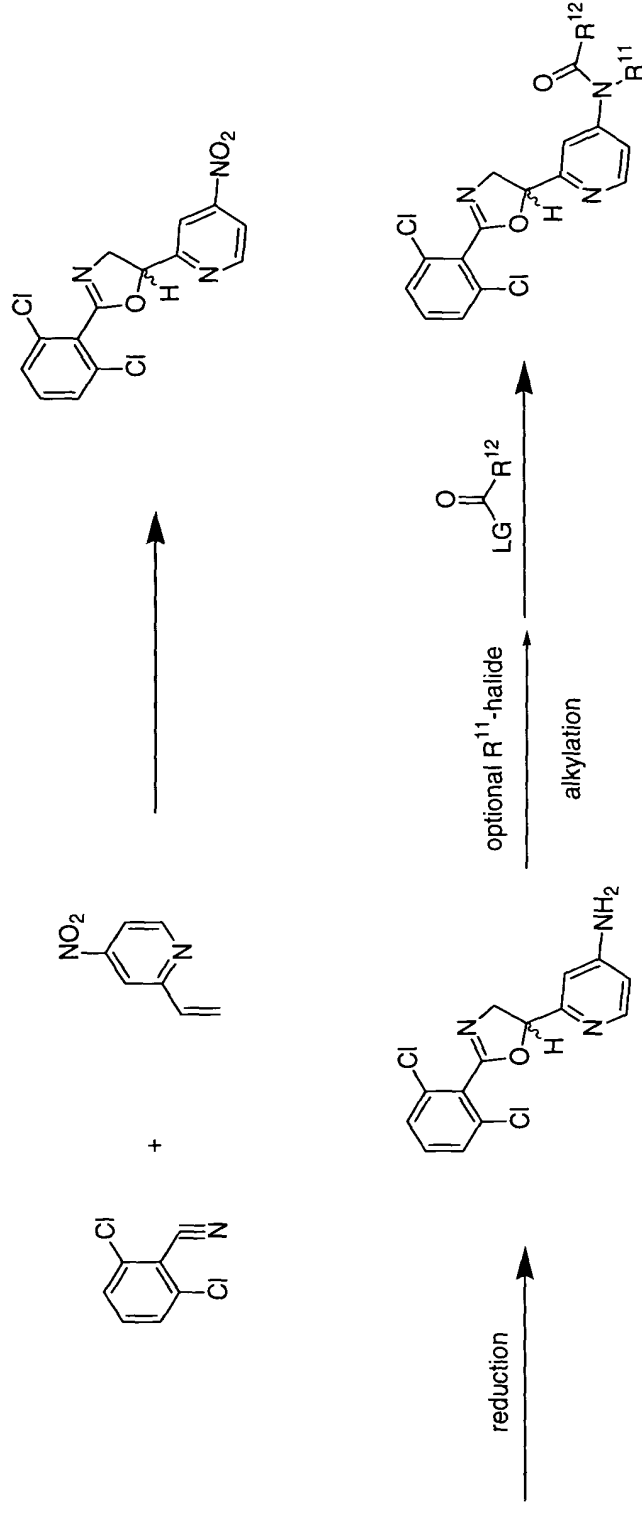
Figure 45
Reverse Oxazole



Representative Reference:

Varma, R.S et al J. of Heterocyclic Chem.,
1998, 35(6), 1533-1534

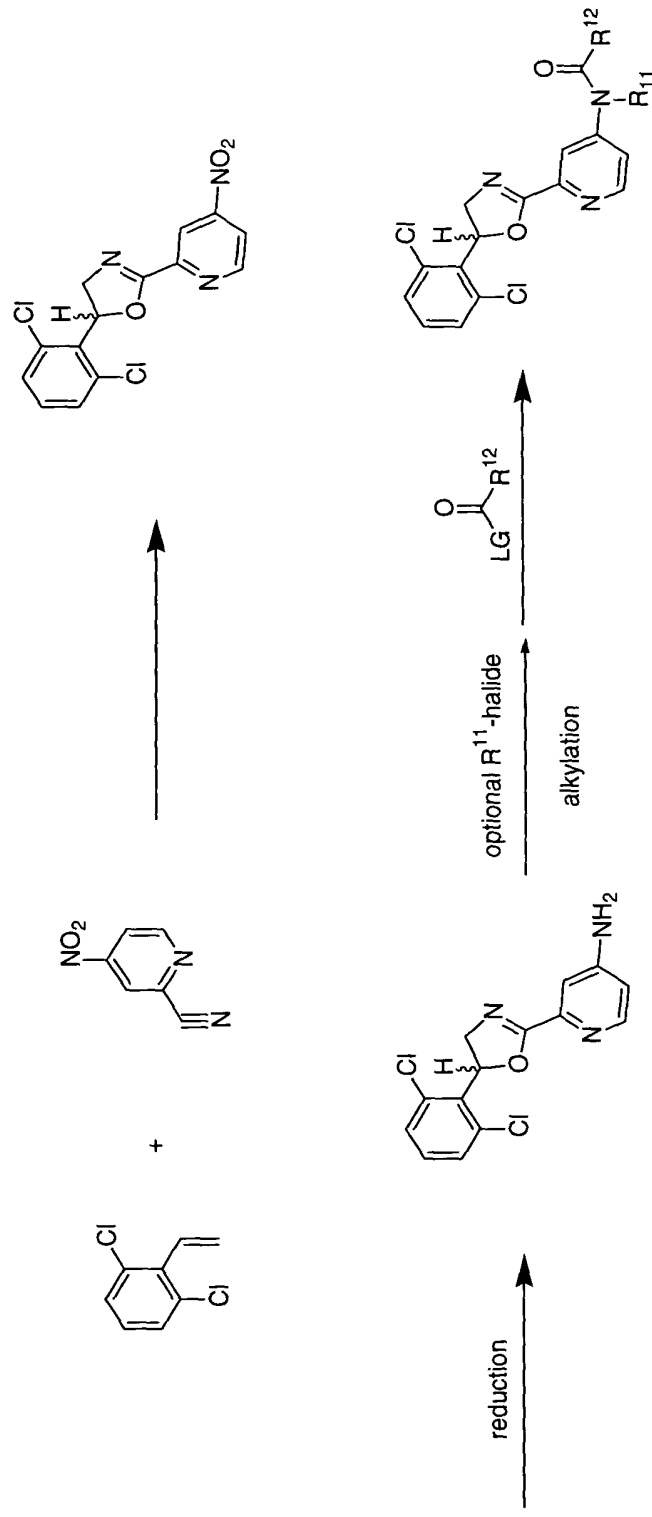
Figure 46
2-Oxazoline



Representative Reference:

Li, Q et al Bioorg&Med. Chem.Lett.,
2002, 12(3), 465-469.

Figure 47
Reverse 2-Oxazoline

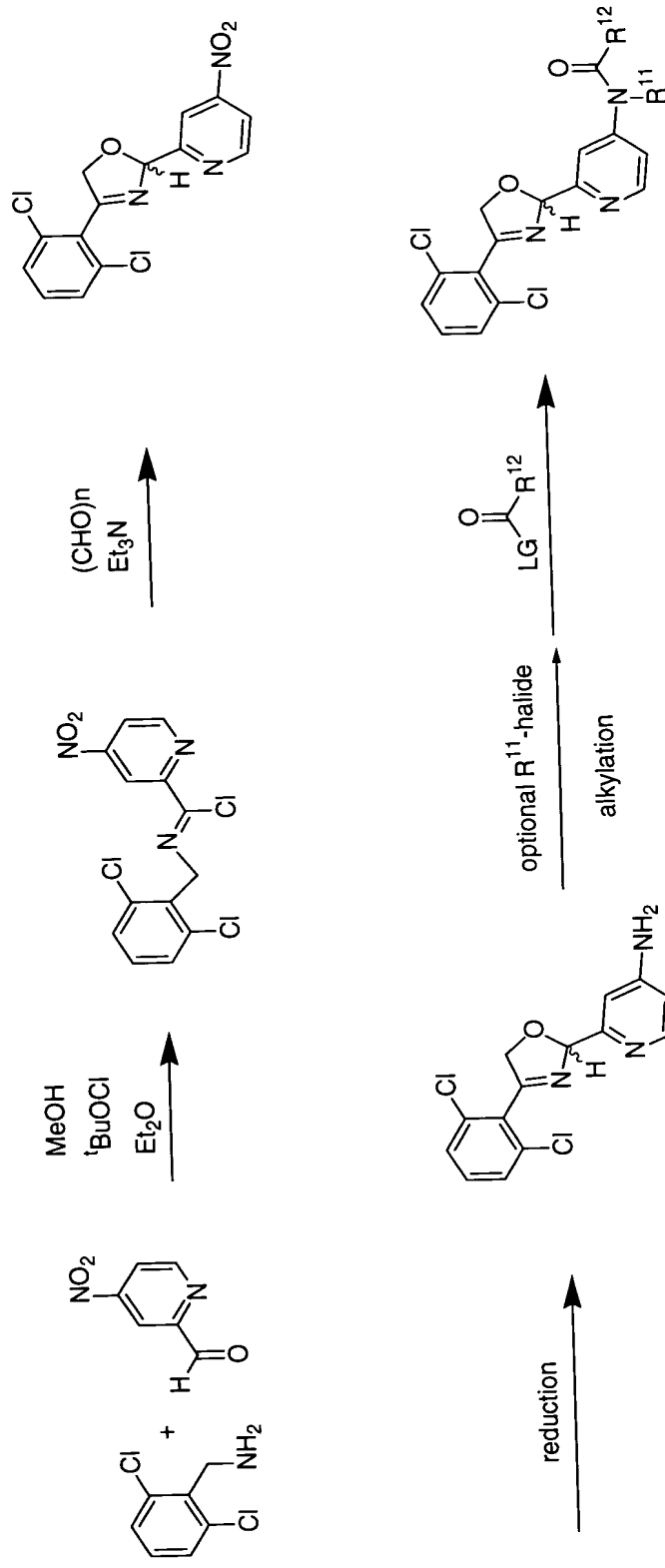


Representative Reference:

Li, Q et al Bioorg&Med. Chem.Lett.,
2002, 12(3), 465-469.

5R- and 5S- enantiomers

Figure 48
3-Oxazoline



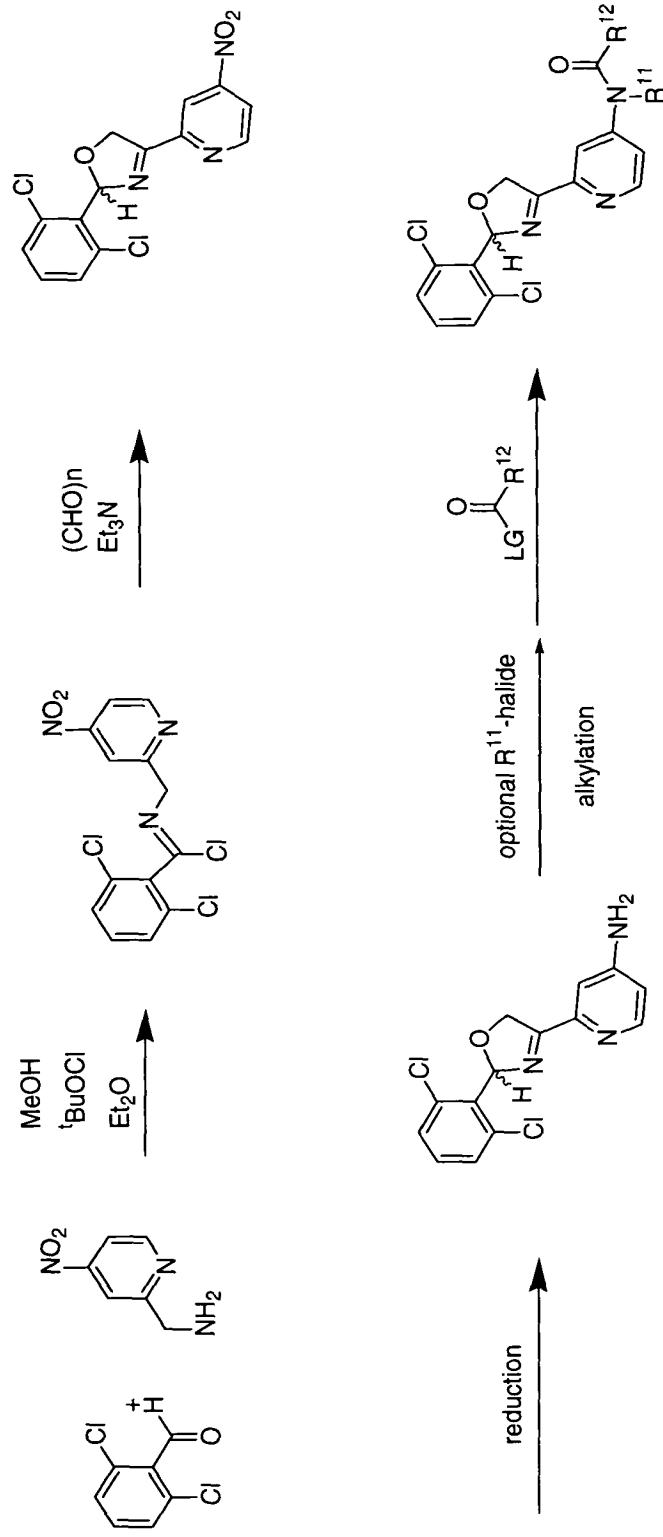
Representative Reference:

Paul, H et al. *Chem. Ber.*, 1965, 98, 1450

Huisgen, R et al. *Angew. Chem.*, 1962, 74, 31.

2R- and 2S- enantiomers

Figure 49
Reverse 3-Oxazoline

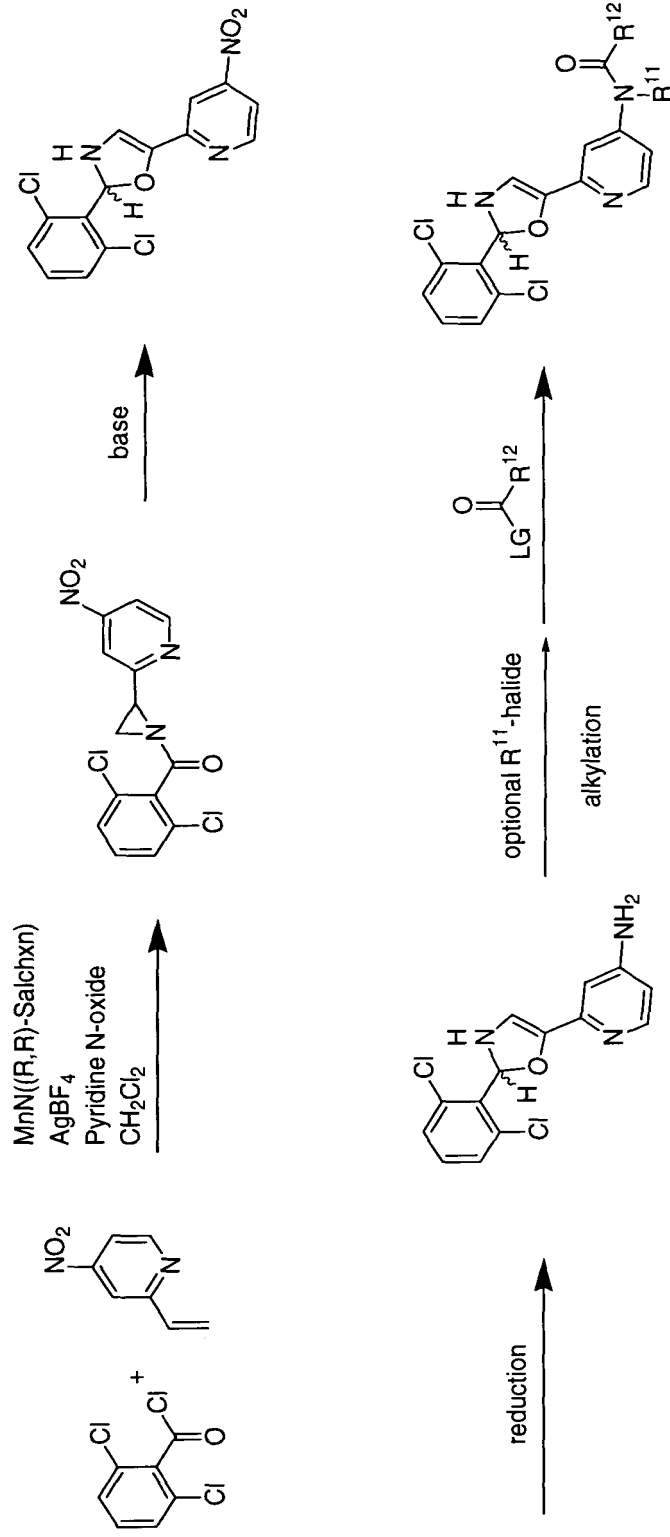


Representative Reference:

Paul, H et al, *Chem. Ber.*, 1965, 98, 1450
 Huisgen, R et al, *Angew. Chem.*, 1962, 74, 31.

2R- and 2S- enantiomers

Figure 50
4-Oxazoline



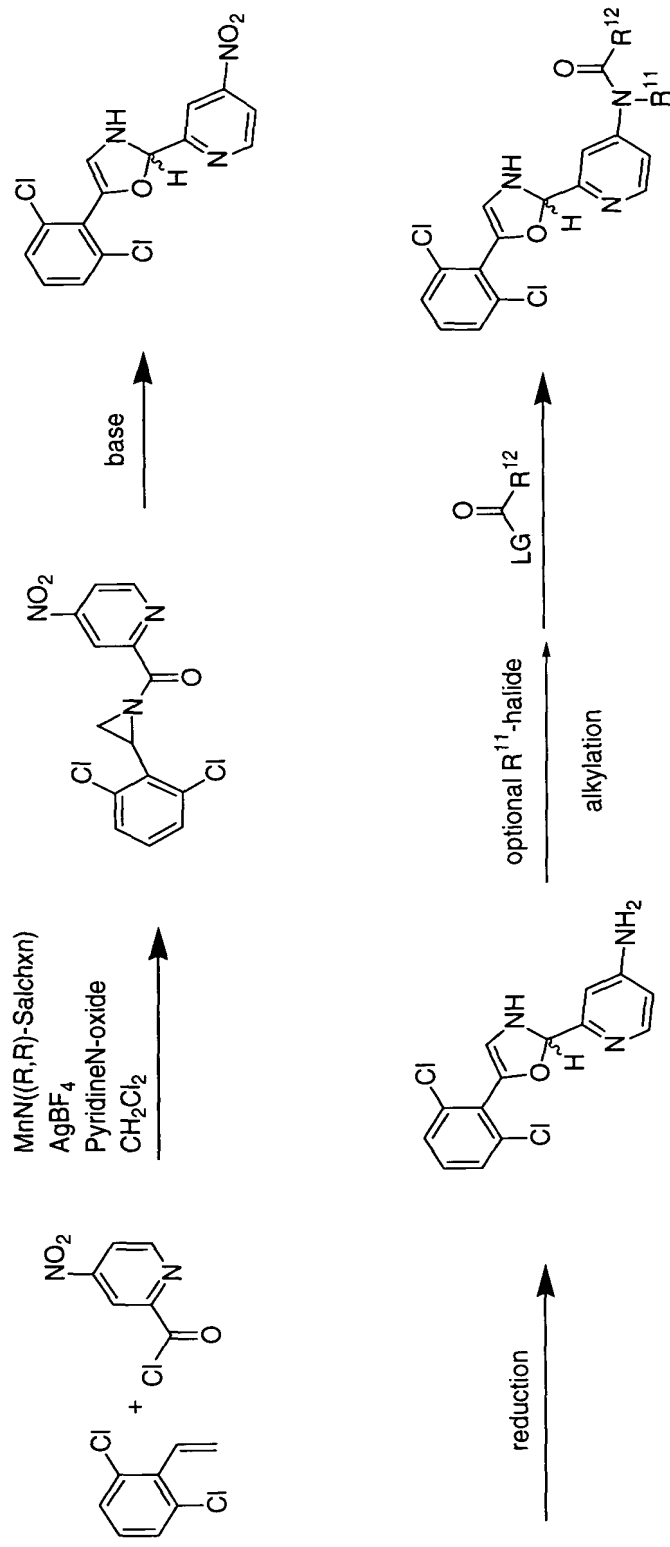
Representative Reference:

Minakata, S et al., Tet Lett., 2001, 42(51), 9019-9022.

Stamm, H et al., Chem. Ber., 1990, 123 (11), 2227-2230.

2R- and 2S- enantiomers

Figure 51
Reverse 4-Oxazoline



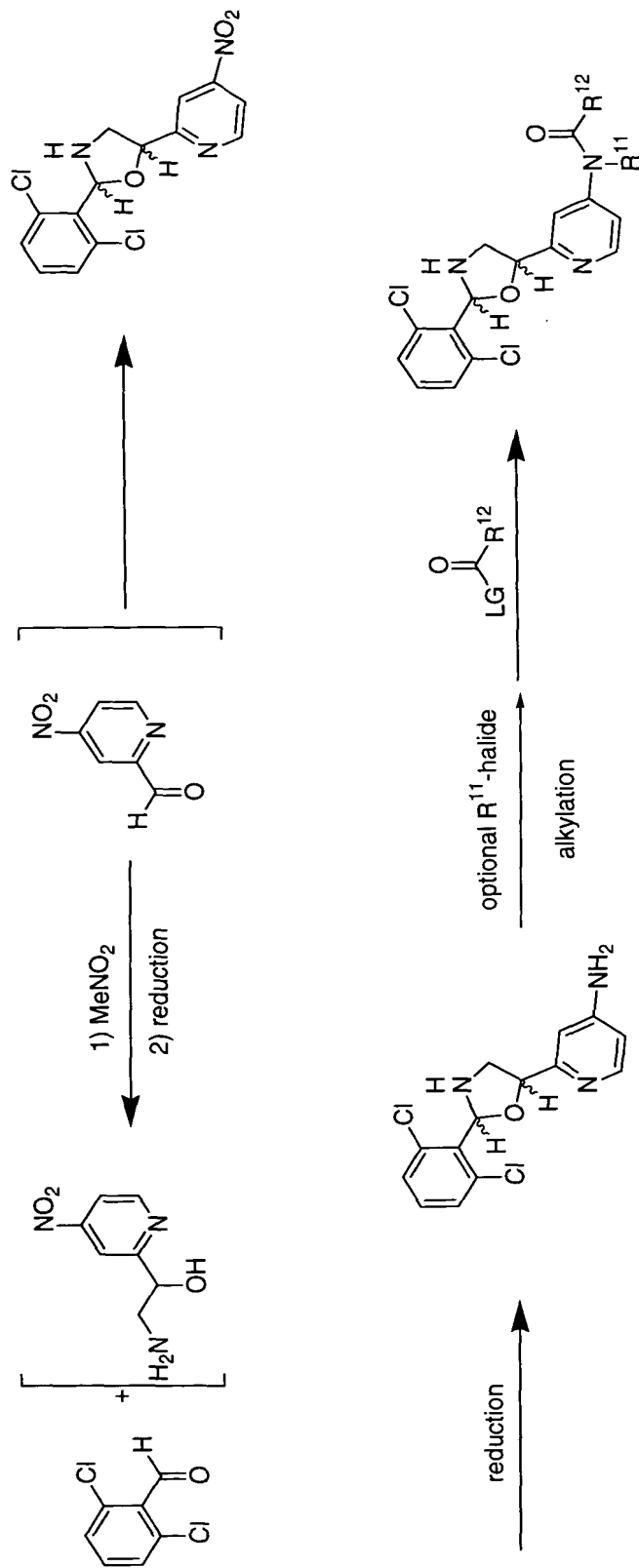
Representative Reference:

Minakata, S et al., Tet Lett., 2001, 42(51), 9019-9022.

Stamm, H et al., Chem. Ber., 1990, 123 (11), 2227-2230.

2R- and 2S- enantiomers

FIGURE 52
OXAZOLIDINES

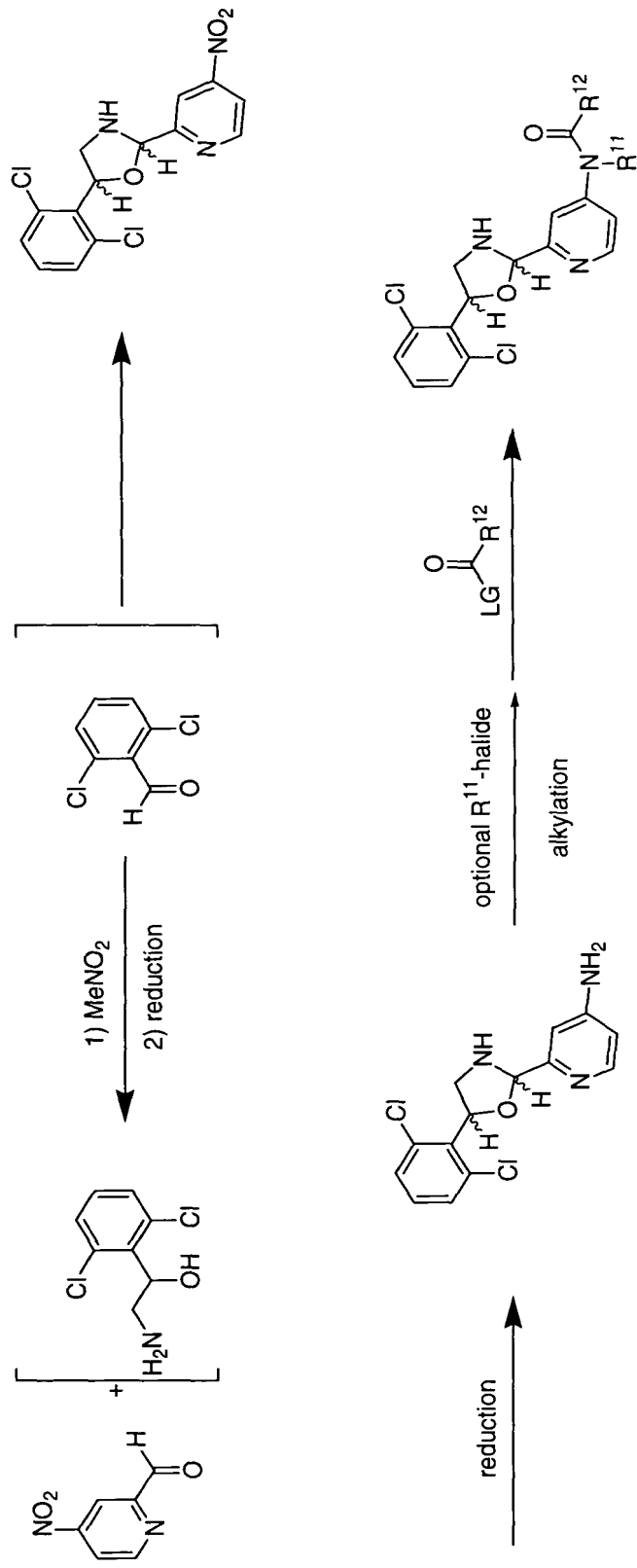


Representative Reference:

Schoenenberger, H et al., Archiv der Pharmazie
1975, 308(9), 717-719.

cis- and trans- racemates
2R,5R-, 2S,5S-, 2R,5S- and 2S,5R
diastereoisomers

Figure 53
Reverse Oxazolidines

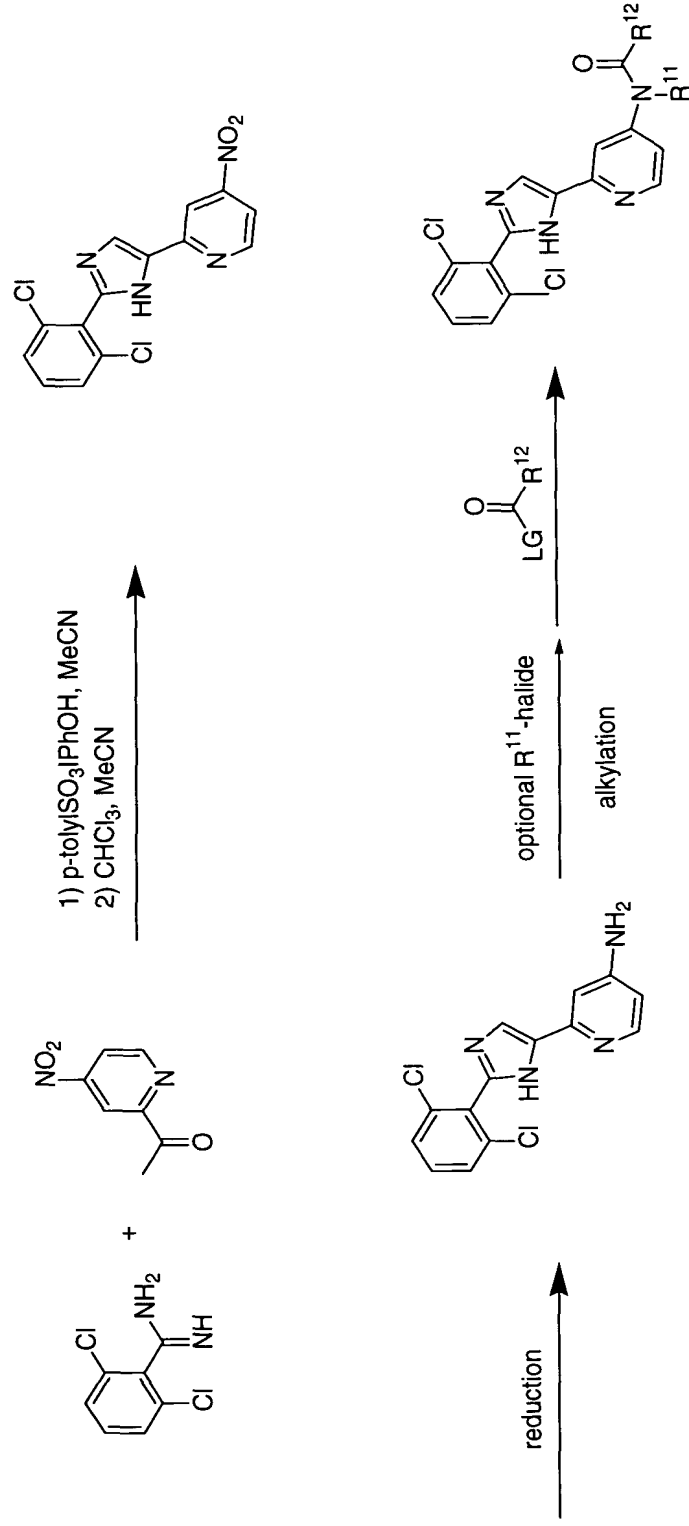


Representative Reference:

Schoenenberger, H et al., Archiv der Pharmazie
1975, 308(9), 717-719.

cis- and trans- racemates
2R,5R-, 2S,5S-, 2R,5S- and 2S,5R
diastereoisomers

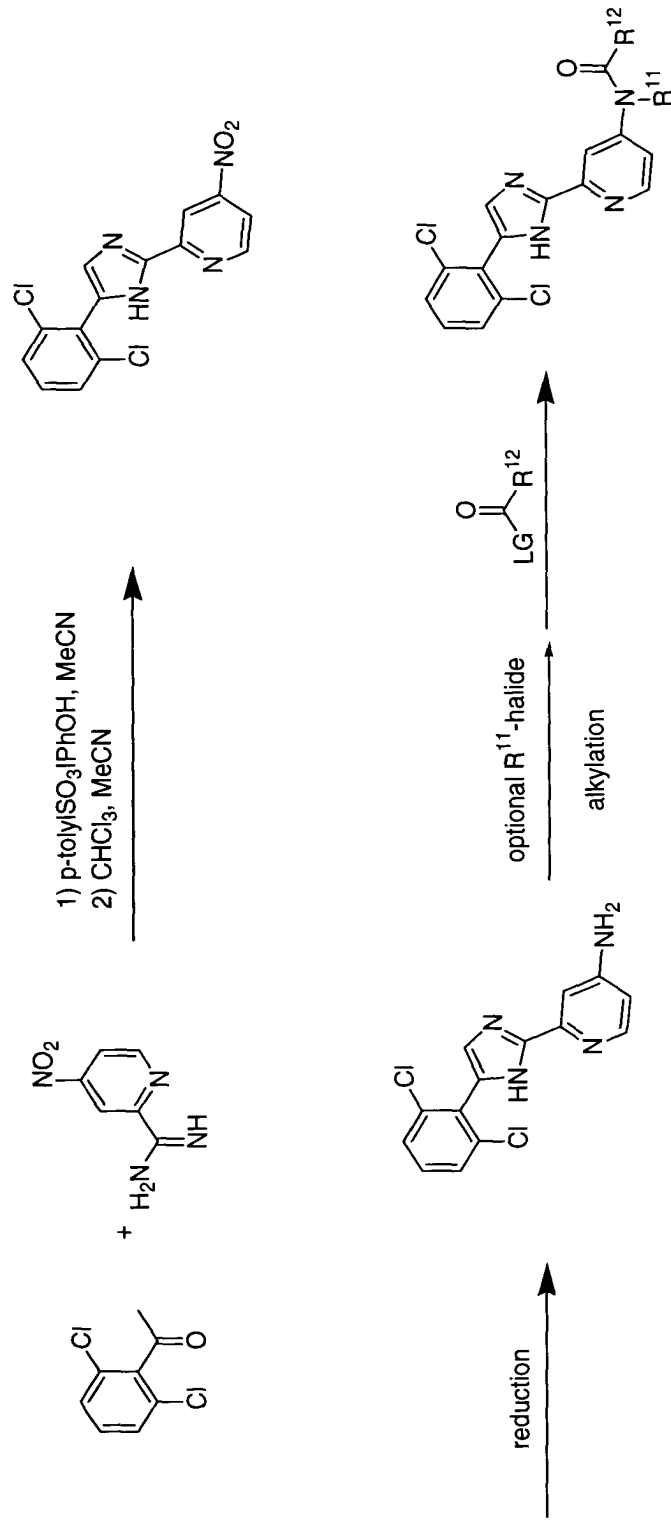
Figure 54
Imidazole



Representative Reference:

Zhang, P-F et al., Synthesis 2001, 14, 2075-2077.

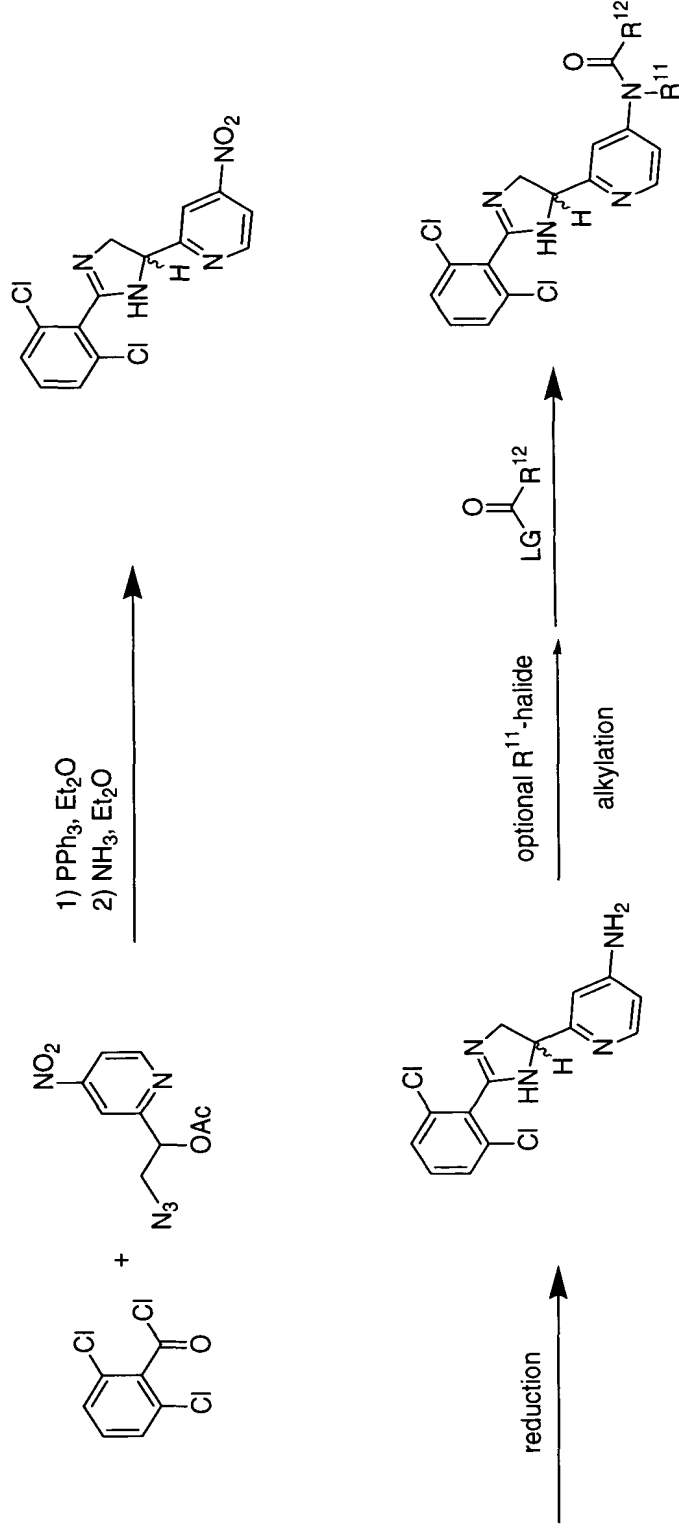
Figure 55
Reverse Imidazole



Representative Reference:

Zhang, P-F et al., Synthesis 2001, 14, 2075-2077.

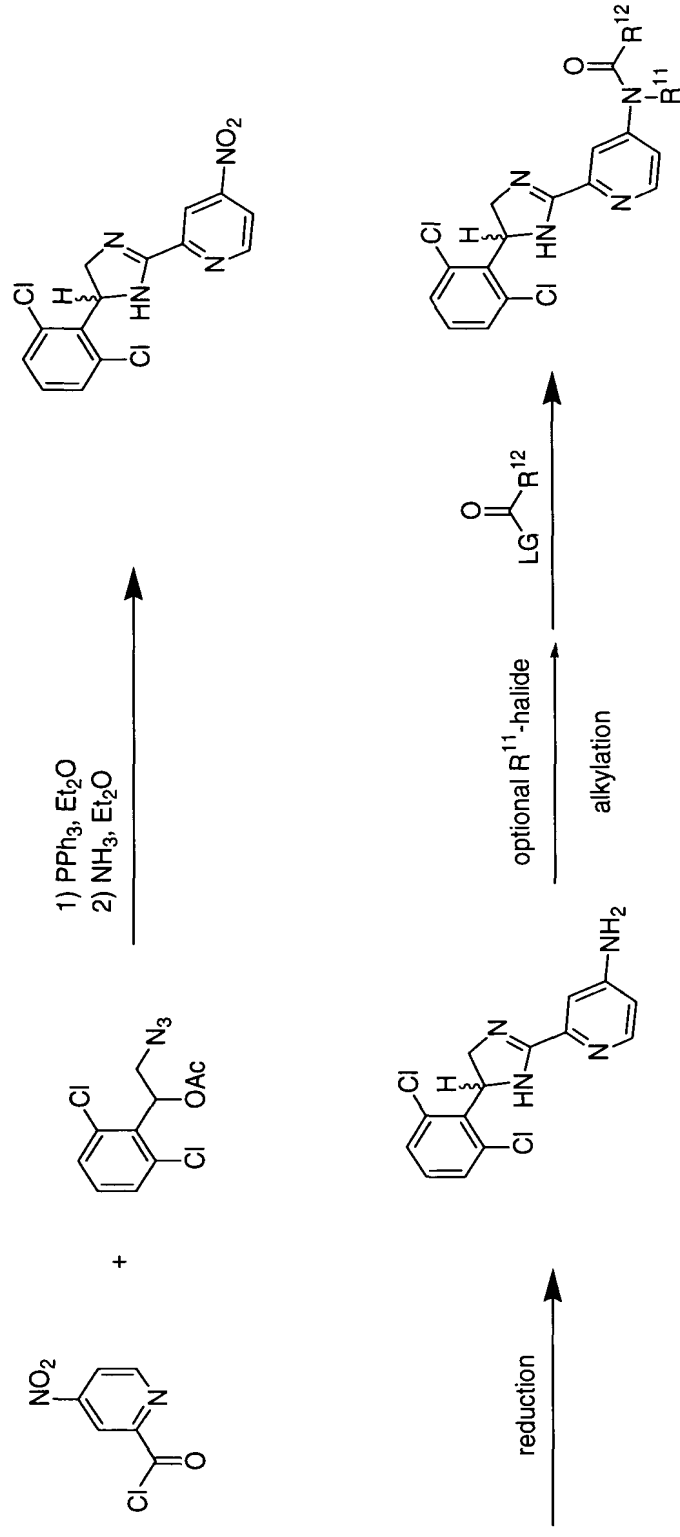
Figure 56
2-Imidazoline



Representative Reference:

Molina, P et al., Synlett, 1995, 10, 1031-1032.

Figure 57
Reverse 2-Imidazoline

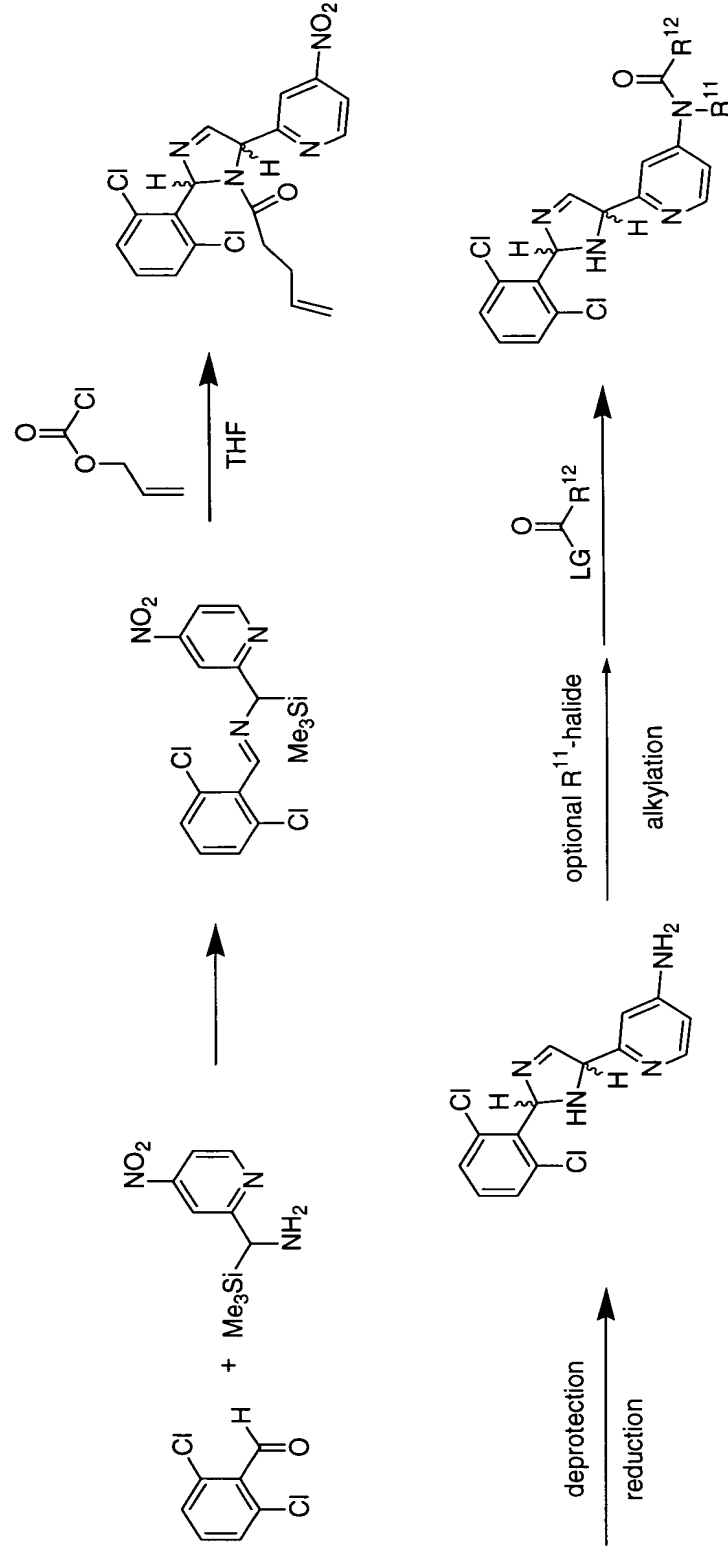


Representative Reference:

Molina, P et al., Synlett., 1995, 10, 1031-1032.

4R- and 4S- enantiomers

Figure 58
3-Imidazolines

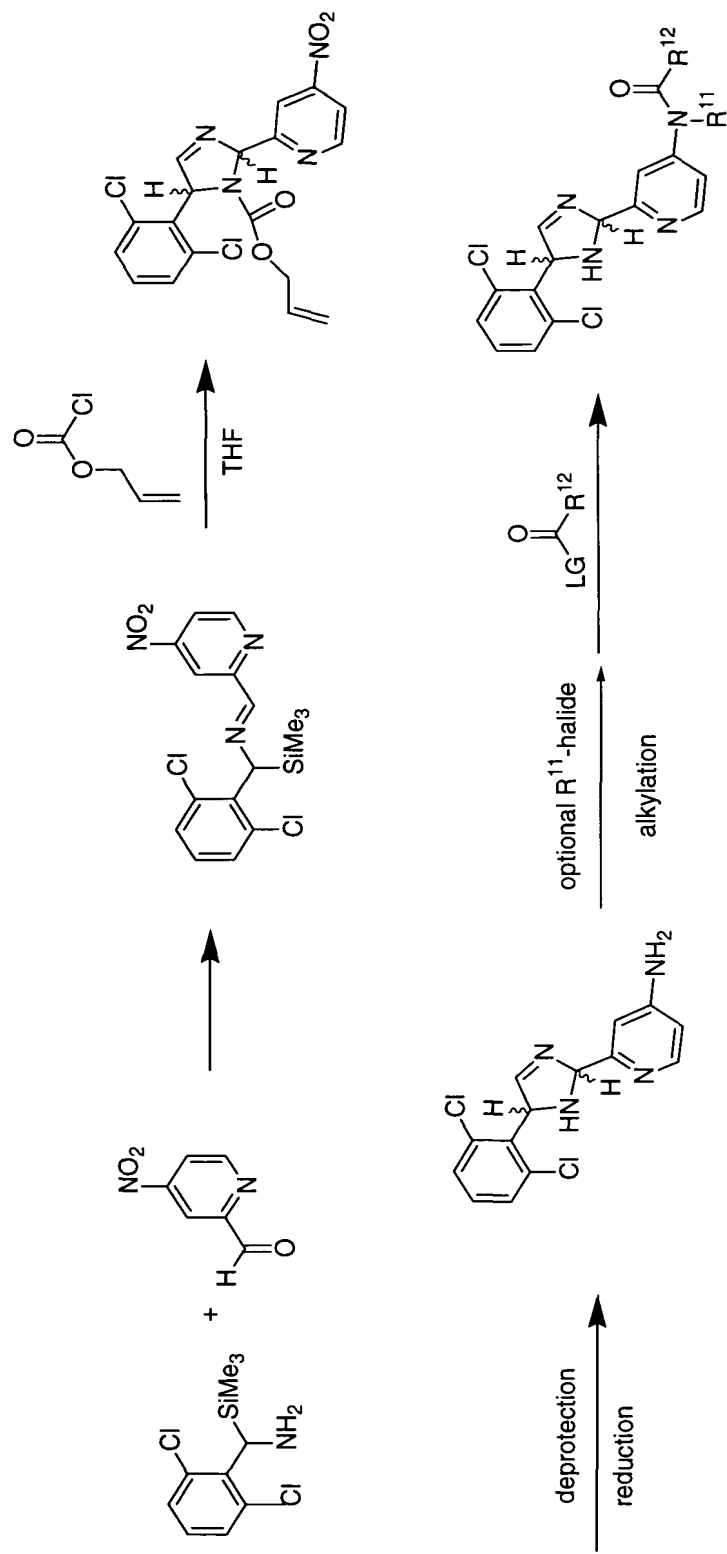


Representative References:

Iyoda, M et al., Chem. Lett., 1995, 12, 1133-1134.
 Katzenellenbogen, J.A et al., Tet. Lett., 1997, 38(25), 4359-4362.

cis- and trans- racemates
 2R,5R-, 2S,5S-, 2R,5S- and 2S,5R
 diastereoisomers

Figure 59
Reverse 3-Imidazolines

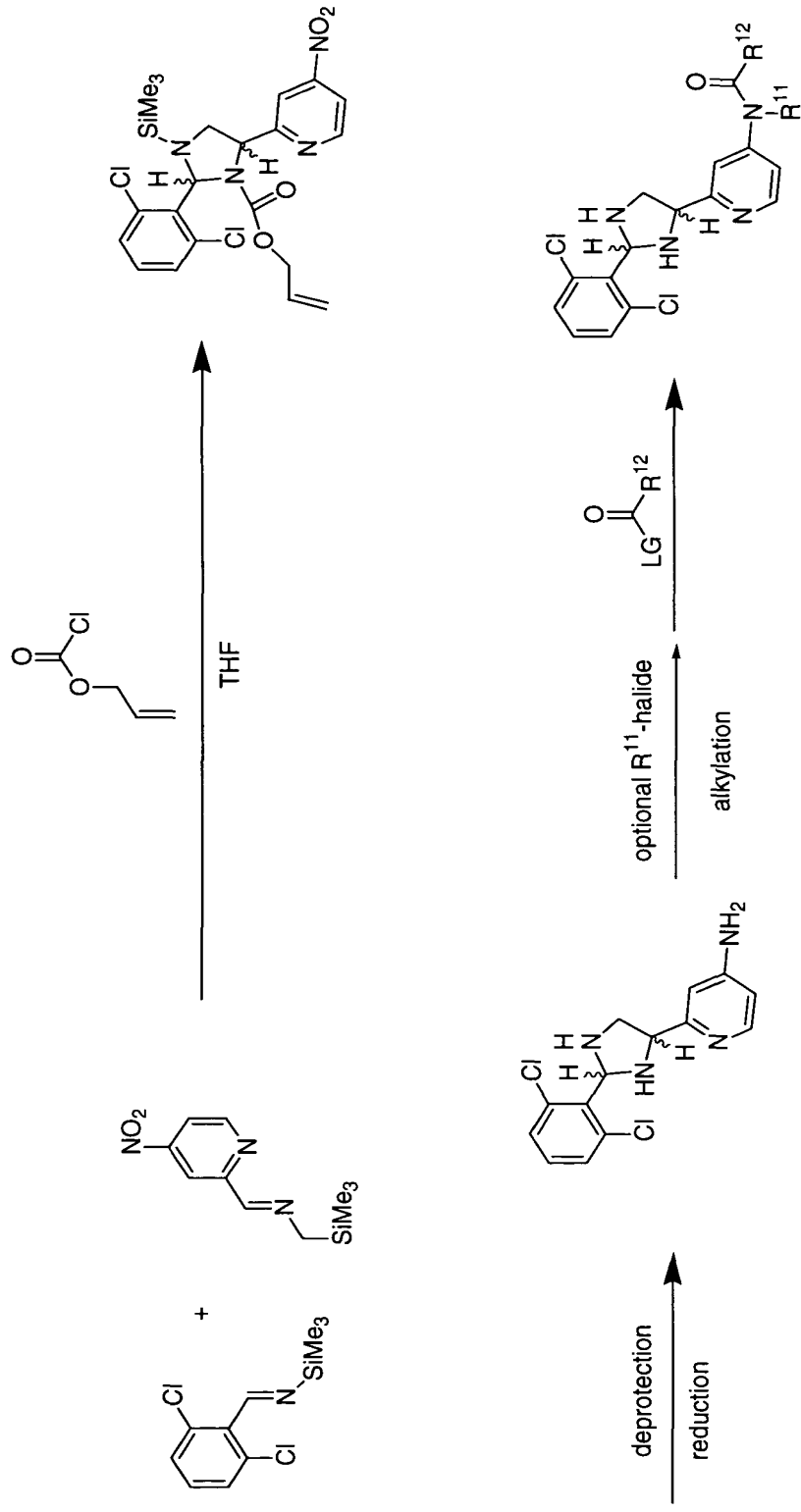


Representative References:

Iyoda, M et al., Chem. Lett., 1995, 12, 1133-1134.
Katzenellenbogen, J.A et al., Tet. Lett., 1997, 38(25), 4359-4362.

cis- and trans- racemates
2R,5R-, 2S,5S-, 2R,5S- and 2S,5R
diastereoisomers

Figure 60
Imidazolidines

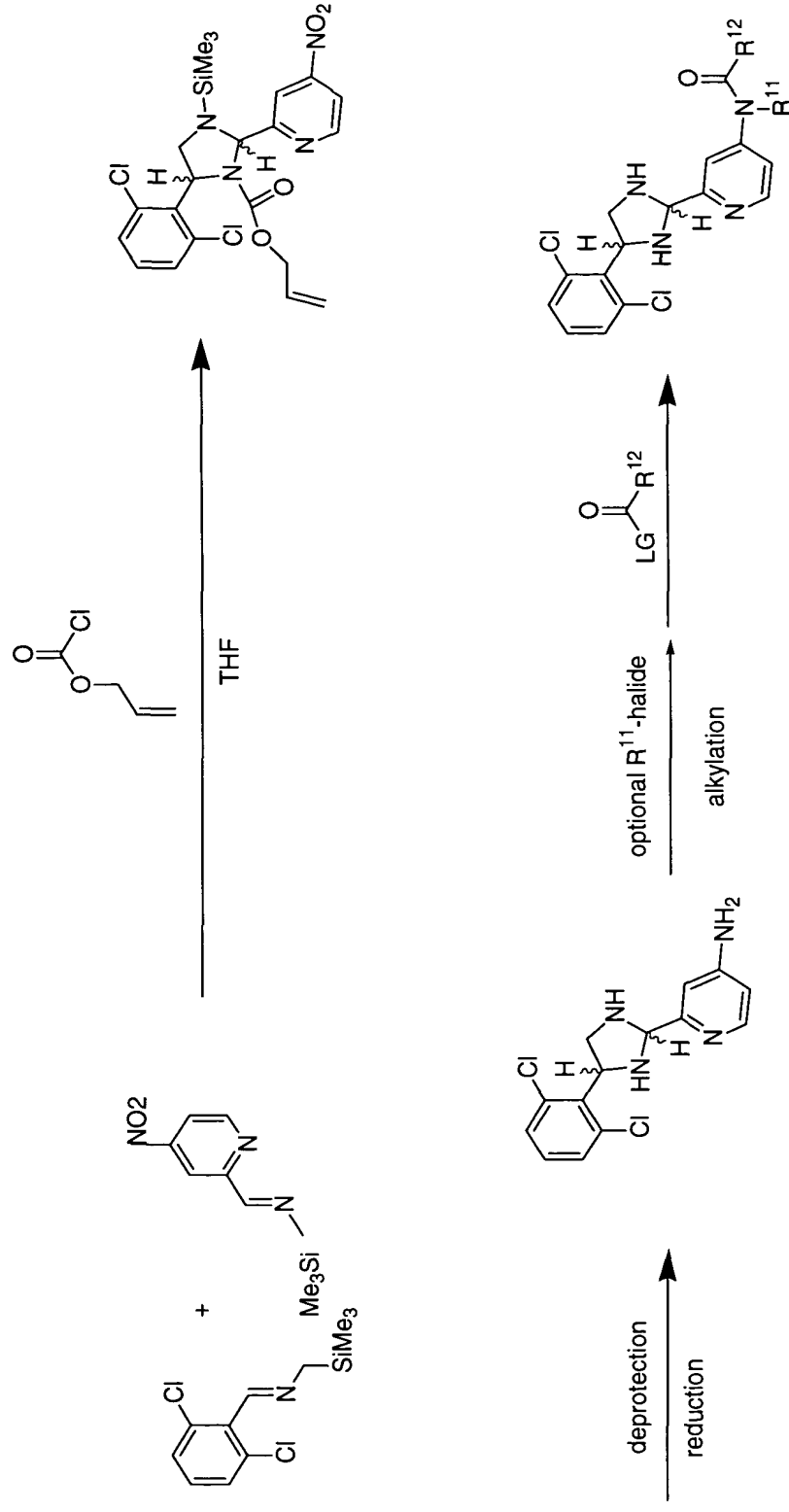


Representative References:

Achiwa, K et al Chem. Lett., 1981, 1213.

cis- and trans- racemates
2R,4R-, 2S,4S-, 2R,4S- and 2S,4R
diastereoisomers

Figure 61
Reverse Imidazolidines

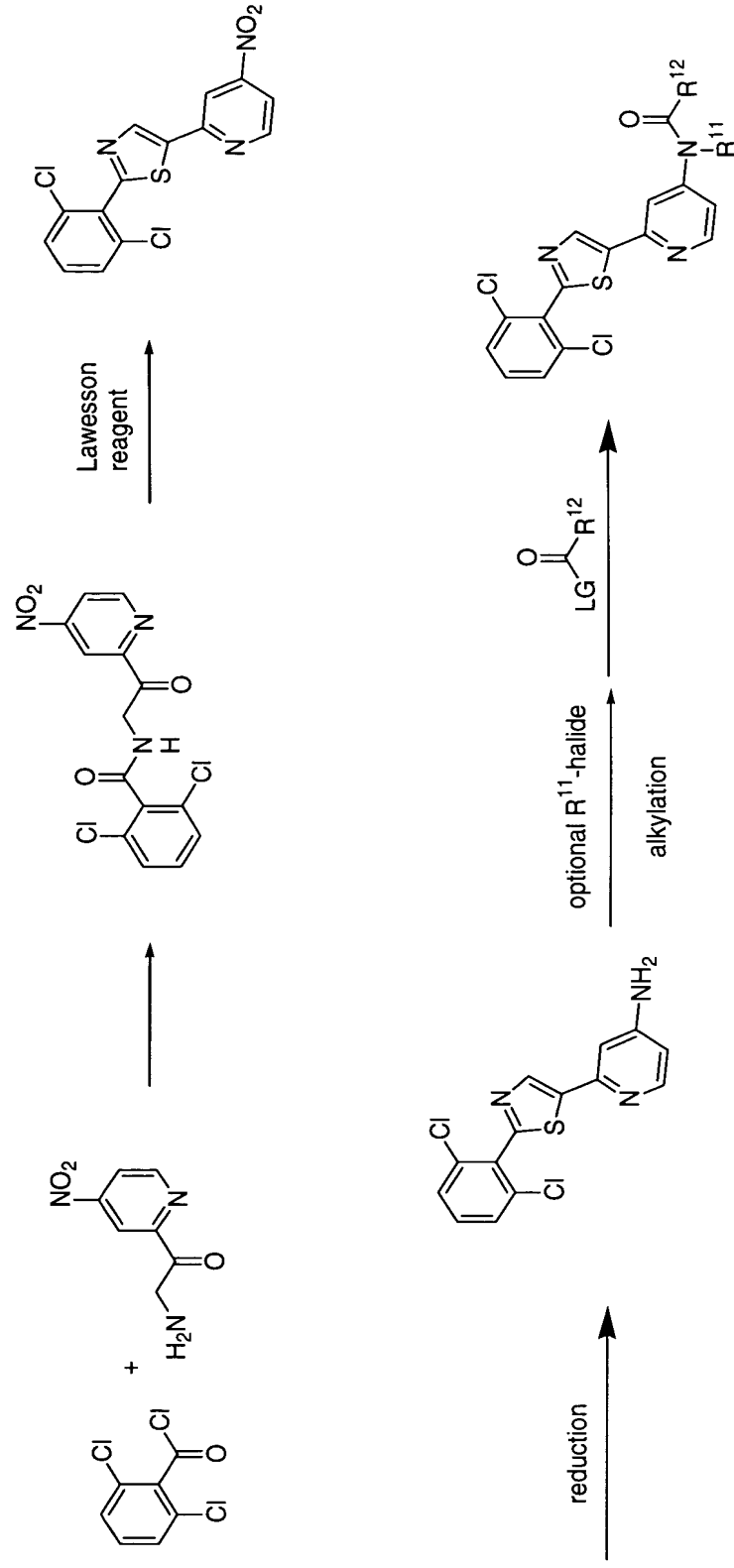


Representative References:

Achiwa, K et al Chem. Lett., 1981, 1213.

cis- and trans- racemates
2R,4R-, 2S,4S-, 2R,4S- and 2S,4R
diastereoisomers

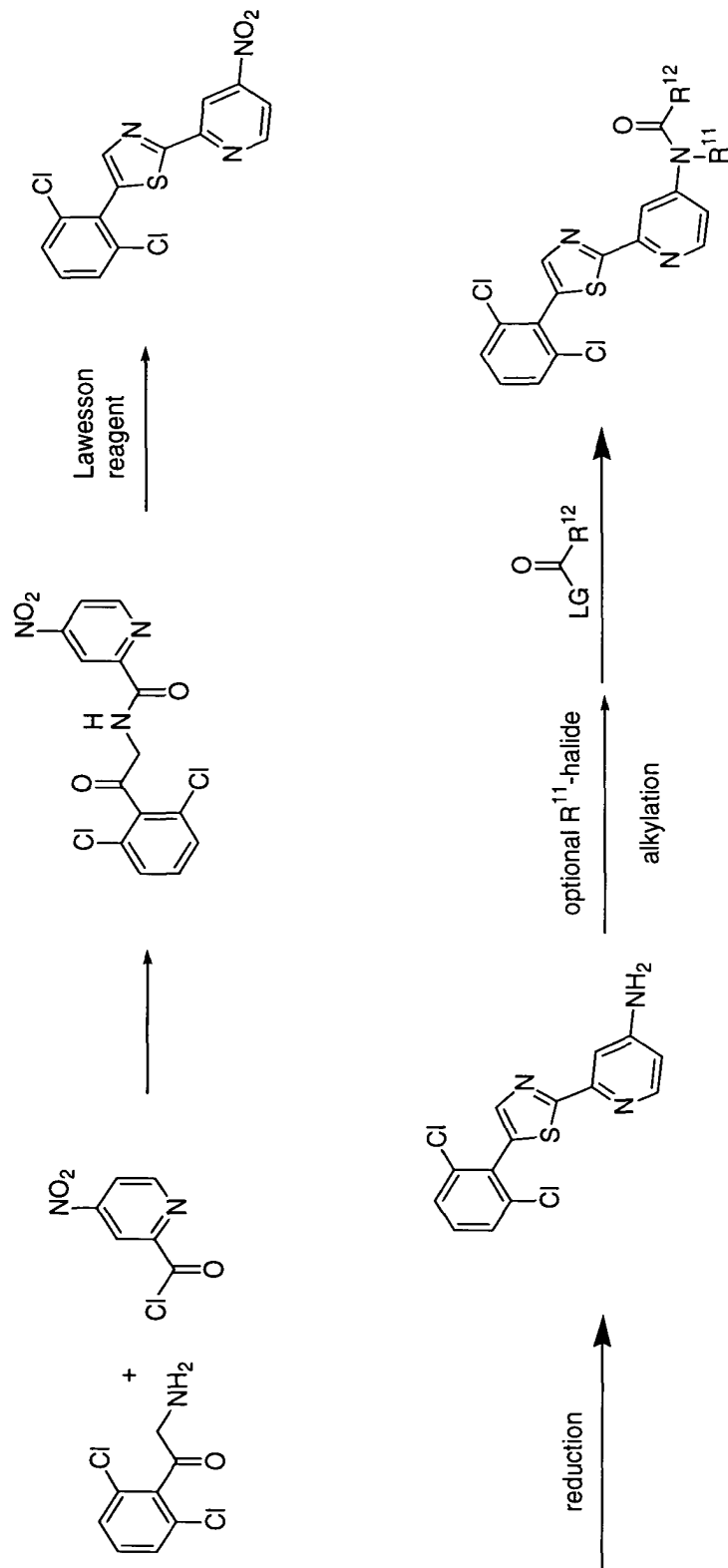
Figure 62
Thiazole



Representative References:

Lhotak, P. et al Collect Czech Chem., 1993, 58 (11), 2720-2728.

Figure 63
Reverse thiazole



Representative References:

Lhotak, P et al Collect Czech Chem., 1993, 58 (11), 2720-2728.